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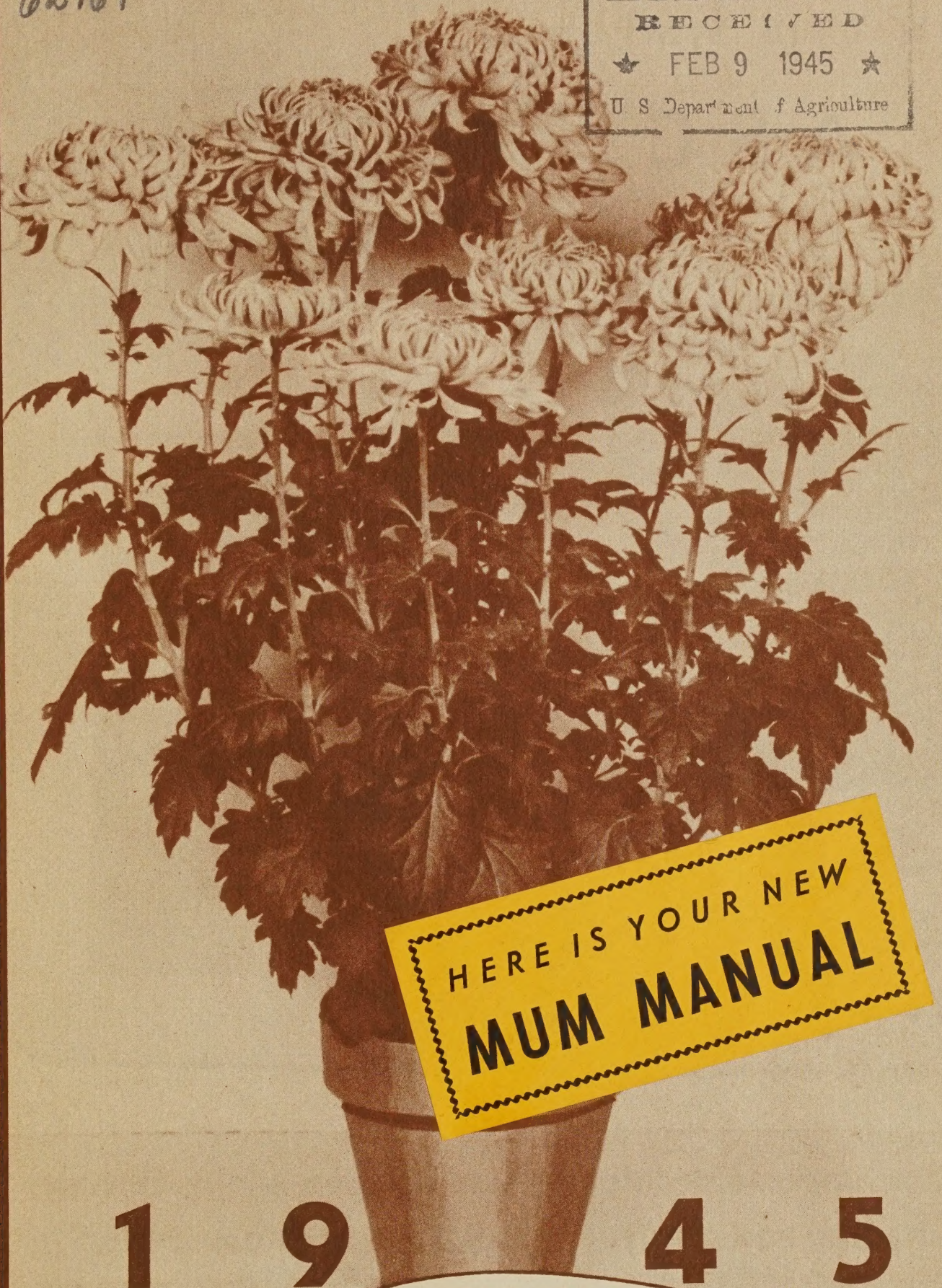
Chrysanthemums

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U. S. Department of Agriculture



HERE IS YOUR NEW
MUM MANUAL

1 9 4 5

Fred C.
Gloeckner
& Company,
Incorporated

15 E. 26th ST., NEW YORK 10, N. Y.
"AT MADISON SQUARE"

Telephones
LExington 2-4944-4999

LOTS OF FINE CHRYSANTHEMUMS IN THIS SIMPLE A B C

Be sure to give generous culture throughout their entire growing season.

This requires close attention as to the proper soil, nutrient requirements, and planting into the permanent location at the correct date. Follow the exact pinching dates, water thoroughly, disbud and regulate temperatures properly. Spray with the right insecticides and fungicides.

Always start your crop with good healthy cuttings. The specialist is able to deliver the cuttings at the desired date, free from insects, properly labelled and packed.

He employs trained people who carefully check for disease, reselect the varieties from time to time to improve type and color, and who see that the cuttings are taken at the proper time.

Chrysanthemum varieties are continually being improved. Do not be too slow to take advantage of new colors, increased vigor, improved quality of bloom and increased productivity.

It is just a part of the *Gloeckner* service to keep you advised. We will gladly help you plan your requirements for the coming year.

Fred C.
Gloeckner
& Company,
Incorporated

15 EAST 26th ST., NEW YORK 10, N. Y.

For important information on pot plant culture, shading and delayed flowering see pages 24 to 33.

SCHEDULE OF RATES

Fifty of a variety is the minimum that can be supplied; orders for more than 50 of a variety must be in multiples of 50 (as 100 - 150 - 200 etc.).

The **MINIMUM TOTAL ORDER** that will be accepted is 250 cuttings.

CULTURAL POINTERS

Cultural Pointers

SOIL

Chrysanthemums will grow well in a wide range of soil types but a fibrous silt loam is preferred. Blue grass sod to which rotted manure has been added plus an application of super phosphate will give excellent results. A soil that does not remain too open is preferred for this crop.

Sands and mucks contain many large pores; they have high non-capillary porosities. It is an accepted fact that most sandy soils have too much aeration at the expense of an adequate water-holding capacity. Clays, on the other hand, have rather low air capacities. Sufficient aeration is one of the major problems for good plant growth on clay soils.

Many growers of chrysanthemums plant in old soil without sterilizing and frequently have disastrous results because this old soil is too fertile or carries disease organisms. Verticillium wilt (Seidewitz disease) is one serious disease which is present in such soils.

The only reliable method is to sterilize with steam so that the soil is heated to 180 to 200 degrees F. for at least one hour. If the soil is high in nitrate nitrogen we suggest you apply two inches of alfalfa or red clover hay to the soil in place of manure before sterilizing. This coarse fiber will reduce the nitrates and also adds humus to the soil. After sterilizing leach the soil with large quantities of water to reduce the available nutrients.

Where steam sterilization is not available such as in cloth houses we suggest that you sterilize with formaldehyde liquid. Dilute one gallon of formaldehyde to 50 gallons of water and add this solution at the rate of $\frac{1}{2}$ gallon per square foot of bed area. Allow the fumes to leave the soil before planting. Soil should be well tilled before applying liquid.

Still another chemical which has proven its worth is Larvacide. This material must be used when the greenhouses are empty to avoid injury to adjoining crops. This gas is applied in liquid form with a special applicator so that 2 to 3 c. c. are applied at 10 inch centers. The soil should be moist before applying. A good suitable covering should be placed over the treated soil to keep the gas in the soil for at least 48 hours, although a water seal applied 2 to 3 times every 24 hours will suffice. The soil temperature should be at least 60 degrees or higher. When used properly you can expect favorable control of insects, diseases and weed seeds.

Evidence shows that the soil reaction should be slightly acid pH 6.5, although in many instances a neutral medium does very well. If your soil tests slightly alkaline apply $\frac{1}{2}$ to one pound of agricultural sulfur per 100 square feet of area. However, if your soil is acid apply 3 to 5 pounds of agricultural ground limestone per 100 square feet of area.

Proper drainage and proper aeration of the soil are very vital to good growth. Many times improper drainage of the bench or bed is the reason for a poor crop. No wet spots would ever be present. Soil drainage may be improved by the addition of various materials. Any coarse organic material such as manure, alfalfa hay or clover hay applied at the rate of not to exceed one fourth the volume will separate the soil particles sufficiently to increase pore space. Heavy applications of sand to a soil have not always proven of value to a chrysanthemum crop. Aeration may also be increased by proper cultivation of the soil. Frequent scratchings are recommended during the early growth of the crop.



Stocky well rooted cuttings



General View of Propagating Houses

*Cultural Pointers***FERTILIZER**

Soil structure is the key to soil fertility. The response of chrysanthemums to fertilization depends upon a favorable soil structure. It is known that plants require nutrients, water and air for growth. Good soil structure will provide proper air and water relationships. Therefore, it behooves us to give proper attention to the soil before starting the crop.

When using new soil, apply 3 to 5 lbs. of super phosphate per 100 square feet of area plus a liberal application of manure before planting. Phosphorus moves slowly within the soil mixture. It should always be added before the crop is benched so that it may be mixed thoroughly into the soil. A mulch of peat, rotted manure, alfalfa or red clover hay applied two to three weeks after planting is helpful. Six weeks after planting and every three weeks until color shows an application of ammonium sulfate at the rate of 1 lb. per 100 square feet of area or 2 lbs. of a complete fertilizer, such as Electra, is advisable. Never apply fertilizers to a dry soil. Water lightly first, then apply the proper quantity of fertilizer then water heavily. Remember that the plant is the best guide as to fertilizer requirements.

In the cooler weather and shorter days of September, omit the ammonium sulfate if the plants are growing freely and are of good color. The chrysanthemum plant assimilates more phosphorus and potassium during the fall when temperatures decline. Therefore, it is more desirable to apply a complete fertilizer shortly after the buds are visible.

When using sterilized soil the best recommendations to follow would be to analyze your soil from time to time. We have found that when the following nutrient levels are kept, good crops are the result. Nitrate nitrogen should be between 10 to 25 parts per million; phosphorus from 2 to 5 parts per million and potassium 20 to 40 parts per million.

The foregoing pertains to plants that appear and behave normally. If plants are stunted, look yellow and sick, they are probably suffering from an extremely rich soil. Many greenhouse soils are excessively rich and chrysanthemums will not thrive in such a medium. If this is the case, the remedy is leaching with water. Lots and lots of it. More water than you ever applied to a bench at once before, two or three gallons per square foot. The water that runs through the soil carries with it the excessive plant food and allows your plants to recover from their indigestion. Did you ever notice fine healthy growth on a small part of a sick-looking bed of mums, and observe that it was under a broken pane of glass that allowed the rain water to come through and leach the soil below? Such a sight is a sure indication that the soil needed leaching. In most cases this condition is the result of the foolish and indiscriminate use of fertilizers. Use them when needed, but use them judiciously. Remember fertilizers are plant food in an extremely concentrated form.

*Thrip Injury**Midge showing the crippled foliage*

CULTURAL POINTERS

Cultural Pointers

PLANTING

Under shading information we have added the date of benching and you will note that we suggest planting in May and June depending on the date you wish to shade. The reason for earlier planting is to allow the plant enough time to grow so that the stem length is sufficient when blooms are ready to cut. For normal culture it is our experience that too late a planting, such as in late July or August, does not pay. We would like to see all planting done in the month of June.

Many florists are planting rooted cuttings directly into permanent locations. This not only reduces several handlings and production costs, but also produces a better quality bloom. We fully realize that it is often an impossibility for all to treat their chrysanthemums this way. However, we have found that young, soft plants are superior to hard woody plants. We do not recommend the planting of unrooted cuttings directly into the permanent locations as you may encounter a heavy loss. However, we suggest you try a small number as a trial.

When planting rooted cuttings either into 2 1/4" pots or directly into the bench it has been proven that if you dip the cuttings, roots and all into a solution of Fermate 1 1/2 pounds per 100 gallons of water they will become established faster as well as protecting the young plant from septoria leaf spot. If you plant in a cloth house or directly in the open be sure to add this to your must list.

When planting rooted cuttings into their permanent position it is necessary to shade the glass or to put aster cloth directly over the young plants long enough until they are established. When shading the glass be sure that the material be applied lightly.

It is definitely advantageous to have some shade on the glass during the months of June and July when the light intensity is the highest. Cloth houses eliminate approximately one-third of the light and we all know what excellent results are obtained under this enclosure. Therefore, shading the glass lightly should likewise be beneficial. Remember not to allow the shade to remain on the glass too late in the season.

For good quality pompons we prefer to plant 7x8 inches or 8x8 inches pinched once, and thin the shoots to three per plant. Nothing is gained by planting at a closer distance. Light intensity should be high at the base of the plant for quality blooms and if planted too close we have lost the factor which promotes quality. Large flowered varieties are generally planted 8x8 inches or 8x9 inches, this also applies to disbud anemone and single varieties.

Several growers have had success by planting two plants to a hill, spacing the hills 10x10 inches, pinching once and allowing six sprays per hill. This will require a few more plants but it is claimed that when planted further apart it is easier to spray and string. A higher production per square foot is obtained.

Knowledge of the varieties, date of benching as well as your method of growing will largely govern the distance of planting.

WATERING

The knowledge of proper watering is essential to success. Chrysanthemums produce extremely heavy foliage and a great deal of water is required at the roots, and under ordinary conditions of bench culture overwatering would be difficult. When grown in beds more care should be exercised in watering. After benching young plants grown in 2 1/4" pots, spot watering around the plants is more desirable than watering the entire area. When the plants become established the entire area should be given a thorough watering. A trowel should be used to examine the soil to determine the necessity of watering. Some soils look wet on the surface but are very dry several inches below.

When planting rooted cuttings directly into their permanent locations it is essential to water thoroughly to set the soil around the plant roots. We suggest double watering again when the soil gets on the dry side. By this time the plants are established and regular watering should be followed. Keep humidity in the house by wetting down bench and walks.

During the heat of the summer it is beneficial to syringe or spray the foliage of chrysanthemums. When syringing is started around 8:00 A.M. and continued at regular intervals, with the help of a light shade on the glass, the house temperature can be kept down as well as raise the humidity within the house. When the growth becomes thick or when the nights get chilly discontinue all syringing. Yet growers who grow quality mums tell us that they do not syringe their crop during the entire season.

Cultural Pointers



Well Established Young Plant



Top Several Inches Removed



*Strong Breaks Resulting
from Single Pinch*

PINCHING

Pinching not only regulates the number of stems but also influences the petallage of varieties that tend to be single; regulates the neckiness; eliminates the appearance of crown buds; and regulates the spray formation on pompons or singles.

For high quality pompons we suggest that you plant in June and give one pinch on the date listed in our list of varieties under "Last Pinch", and allow 3 to 4 breaks to mature. If you follow this culture your sprays will be much larger and every one will be saleable. If you prefer to have a number of smaller sprays, with fewer blooms open at one time, follow the double pinching procedure.

When pinching only remove the soft growth, never cut into the woody stems as this will not produce the type of breaks you desire. In all cases it is better to have at least eight inches of growth on the plants before pinching. It is our experience not to pinch until the plant has become well established in its permanent location.

Standards are usually pinched once to induce breaks so that they may be grown two per plant. The strongest breaks are selected and all others removed. It is well to pinch on the date suggested in the general list. Careful observation has shown us that neckiness with some varieties is eliminated by pinching on the respective dates. Singles and anemones are usually grown 3 to 4 stems per plant.

If by chance you are delayed in planting and your plants will be too tall, it is advisable to pinch early enough before benching so that the breaks will be several inches long at time of planting. Never pinch hard plants at the same time they are planted into the bench, a heavy loss may result. Better wait until plants are established, then pinch.

The last pinching dates given after each variety will help you grow that variety to excellency. Remember that pinching is just one cultural factor and will only function when all other cultural points are carried out properly.

TEMPERATURE

This crop will make its most growth during cool weather. During the summer, syringing overhead plus a light shade on the glass will help keep the plants cool.

It has been shown that if chrysanthemums are grown in temperatures much below 50 degrees at the time of bud initiation the plants will remain vegetative and will not form flower buds.

Blindness in this crop is usually associated with those varieties which flower the latter part of November or later. Not all varieties initiate buds at the same date. The late flowering varieties may not set bud until October. The average night temperature at that date may well be below 50 degrees. It is recommended that you keep a night temperature of 55 degrees on the late varieties until the buds are visible, after that you are safe in reducing the temperature to 48 to 50 degrees. This raise in temperature is especially important if you are using additional light to retard blooming.

CULTURAL POINTERS

Cultural Pointers



*Crown bud surrounded
by lateral buds*



*Terminal bud surrounded
by flower buds*



Terminal bud selected

DISBUDDING

Large flowered varieties produce side shoots in the axils of the leaves which should be removed very close to the base at regular weekly intervals.

The chrysanthemum usually produces two distinct types of flowering buds—Crown and Terminal. The first bud produced is called the crown bud and is distinguished by being surrounded by other lateral leaf buds. The second is the terminal bud and is surrounded by several flower buds. If the plant is planted especially early, a second crown bud might appear. In appearance this second crown bud is exactly the same as the first.

The procedure of "Taking Bud" depends very largely on the variety. Usually the safest rule to follow is not to select a bud of early or midseason varieties before August 25. In our list of large flowered varieties under "Select Bud" you will find the date on which to select the proper bud. If bud is selected too early a large percentage of the flowers will be crippled.

The final selection of bud should not be made when the cluster buds are too small as this will very likely cause injury to the stem near the bloom. Likewise it is not advisable to delay selecting the bud too long. Some growers like to leave an alternate bud until they are certain that nothing will happen to the one finally selected.

CUTTING FLOWERS

Quality flowers can be easily ruined by improper cutting and marketing. Standards should have their centers well developed before cutting as half open blooms will not have good keeping qualities. Pompons are ready to cut when the majority of the buds on the spray are open. If pompons are allowed to remain on the plant too long the quality is greatly reduced. There is also a great difference in weight of pompons cut when ready as compared with those held on the plant for some time before cutting. The Chrysanthemum Society of America recommends that pompons be marketed in 9 ounce bunches.

Standards are the most difficult to market. Over-crowding in the shipping boxes is the most common error. Pack so that there is ample room for each bloom, with sufficient cleating to hold the flowers in their proper positions. Pompons should be tied in neat bunches so to show off the flowers and yet not tangle with other bunches when handled.

STEAM STERILIZATION

Soil Sterilization with Steam

Today we are more than ever interested in economical operations. Sterilizing soil is definitely a money and labor saving method in preparing soils. There are other methods used to sterilize soil but we feel that steam is the most practical.

Soil sterilization is protection against certain soil borne diseases, such as Verticillium wilt (Seidewitz disease) and root nematodes. Sterilizing by steam changes the physical properties by making the soil granular.

If the soil is high in nitrate, we suggest you apply two inches of alfalfa or red clover hay into the soil in place of manure, before sterilizing. Old greenhouse soils used for many years are usually high in nitrate nitrogen and are benefited by leaching, after the soil is steamed.

USEFUL HINTS

- 1—Apply manure or red clover hay before sterilizing. Till the soil thoroughly, so that the steam may be uniformly distributed.
- 2—Have the soil moderately moist, slightly drier than a good potting soil.
- 3—**Buried Tile Method.** Use three inch tile or down spouting; two lines in a three and one-half foot bench. Ridge the soil to the center of the bench directly over the lines, covering with tarpaulin, canvas or sisalkraft.
Thomas Method. This is very similar to the buried tile method with the exception, that the conductor for the steam is laid on top of the soil. Sisalkraft or other suitable covering is placed on top of the conductor and nailed to the side of the bench. The covering should be supported so as not to lay right on the soil, a 4-inch pot every 6 feet is ample. The steam is introduced very similar to other methods.
- 4—High pressure steam is not necessary. Figure that you sterilize approximately one square yard of soil per boiler horse power.
- 5—Do not try to sterilize more than 50 feet of bench in one direction. The longer the distance, the longer time required to heat the desired temperature.
- 6—Suitable thermometers should be available for determining temperatures at various depths.
- 7—Cover the sides of the benches so that the entire bench and contents are heated to 180°F.
- 8—No air should enter the pipe or tile with the steam as cold air causes condensation of the steam.
- 9—Remove the covering one hour after the steam has been cut. This allows the excess moisture to pass from the soil as vapor.
- 10—Steam sterilization granulates the soil particles, making for a more porous soil, allowing air and moisture to pass through freely.
- 11—Steam sterilization usually will increase the soluble salts, nitrate nitrogen and ammonia nitrogen over a period of several weeks, although this is not always the case.
- 12—Leach heavily immediately after sterilizing to reduce excess fertility.
- 13—Be very careful so as not to contaminate sterilized soils by placing tools, flats, etc., on sterilized soil.
- 14—The cost of steam sterilization will average 1-1/2 cents per square foot of bench area, as compared with 5 cents per square foot when soil is changed.

We will at all times endeavor to serve you to the very best of our ability. If you have any questions, cultural problems, etc., from time to time, please feel free to call upon us. If we are able to help you we shall be more than repaid.

CULTURED STOCK

Cultured Stock

WHAT IS VERTICILLIUM WILT?

Verticillium wilt or more commonly called Seidewitz Disease, causes the margins of the leaves to turn yellow and eventually wilt or dry up. This begins at the base of the plant and works up the stem. It may affect one side of a stem or plant more than the other. There are no distinct spots on the leaves. Some varieties are more resistant than others.

HOW IS VERTICILLIUM WILT SPREAD?

Verticillium infection is either transmitted through diseased cuttings or is picked up by root infection from Verticillium-infected soil—it is not transmitted by air-borne or splashed spores.

WHAT IS THE CONTROL?

Plant only disease free, cultured cuttings in soil which has been steam sterilized.

WHAT IS CULTURING?

If bits of infected tissue of a cutting were partially imbedded in the gelatine-like agar medium which is used for growing fungi, the Verticillium grows out into the surrounding agar and can be accurately identified. If the tissue were not infected, no growth of Verticillium develops. Thus, the presence or absence of Verticillium in the basal tissues of any shoot can be rather quickly determined, the entire process requires only 10 days. It is this process which is referred to as "Culturing."

WHAT IS CULTURED-STOCK?

Each cutting is carefully cultured or indexed to determine the presence or absence of Verticillium organism. All Verticillium free cuttings are rooted in sterilized sand and then grown in sterilized soil. Stock plants are grown from this healthy stock in sterilized soil. This is "Cultured Stock."

IS THIS CULTURED-STOCK IMMUNE TO VERTICILLIUM WILT?

If planted in properly sterilized soil it should remain free or nearly free of Verticillium, but if planted into old, contaminated soil, cultured stock will become infected and may appear a little better than the usual run of stock.

ARE ALL VARIETIES GROWN FROM CULTURED STOCK?

Every cutting that you receive from us has been grown from cultured stock.



Verticillium Wilt



Rust on Chrysanthemum

Diseases and Their Control

DISEASE	SYMPTOMS	CONTROL
FOLIAR NEMATODE (See Picture on Page 19)	Leaves first turn black or chocolate brown and leathery, then shrivel up, become brittle. Begins at base of stem and may work up to the flowers.	Strip off all the leaves from the lower 6 to 8 inches of all plants as soon as possible. Spray with double strength nicofume plus Bordeaux Mixture.
MILDEW (See Picture on Page 19)	Whitish powdery growth on upper surface of leaves.	Spray at regular weekly intervals with a good wettable sulfur, 1 lb. per 100 gallons of water to which a good commercial spreader has been added. Dusting with a good dusting sulfur will give equally good results.
ROOT KNOT NEMATODE (Eelworm)	The nematodes or eelworms bore into the roots of the plants and cause knots or galls to develop on the root systems. As a result the plants are weak, yellowish and stunted in growth.	Soil sterilization, preferably with steam, is very effective in eliminating the root knot nematodes from the soil.
ROOT ROT	Entire plant will wilt and recover during the evening. Foliage turns yellow, entire plant will die in a very short time. A number of soil born organisms cause the loss of the roots.	Do not plant any cuttings that have been infected with damping off. Use sterilized soil. Remove all affected plants when noticed.
RUST (See Picture on Page 7)	Chocolate brown powdery pustules on the lower surface of the leaves.	Same as for Mildew.
SEPTORIA LEAF SPOT (Leaf Blight)	Distinct circular spots on the leaves. These are greyish brown in color and become brittle in the center. Affected leaves may turn yellow and die. More prevalent out of doors. Some varieties are more susceptible than others. Sea Gull is very susceptible.	Spray with 2-2-50 Bordeaux Mixture plus a good commercial spreader about 3 or 4 days after planting and continue at regular weekly intervals until about the middle of July. Fermate , 1 1/2 lb. per 100 gals. with Grasselli Spreader at 1-3000, has given remarkable control, being equal, if not superior, to Bordeaux Mixture.
VERTICILLIUM WILT (Seidewitz Disease) (See Picture on Page 7)	Margins of leaves turn yellow and eventually wilt or dry up. This begins at base of plant and works up the stems. May affect one side of a stem or plant more than the other. No distinct spots. Varieties vary in resistance to this disease.	Plant only disease free cultured cuttings in soil which has been steam sterilized.

PEST CONTROL

Insects and Their Control

INSECT	CONTROL	REMARKS
APHID (Plant Lice)	Nicofume Liquid, 1-400. Nicofume Fumigation.	Use pressure fumigators.
CLIMBING CUT WORM	Arsenate of lead spray or dust. Poison bran bait.	1½ lbs. to 50 gal. water plus ½ lb. caseinate spreader. Poison Bait Formula: Wheat bran 5 lbs. Enough water to moisten mash. Paris Green 4 ozs. Molasses 1 pint. One finely chopped lemon.
LACE BUG	Tobacco dust.	General Sanitation.
LEAF ROLLER (Leaf Tier)	Arsenate of lead spray when plants are young. Tartar Emetic.	1½ lbs. to 50 gal. water plus ½ lb. caseinate spreader. 2 lbs. Tartar Emetic
MEALY BUG	Calcium cyanide fumigation. Greenhouse Volck 1-50, and Nicofume 1-400. Loro 1-800, Grasselli Spreader 1-1200.	50 gal. water. With caution. Be very careful, will burn when temperature is high. With caution.
MIDGE (See Picture on Page 2)	Calcium Cyanide fumigation. Nicofume fumigation. Loro 1-800, Grasselli Spreader 1-1200.	Must be done every evening for 21 days. With caution. Spray every 3 days for 3 weeks then every week.
MITE (See Picture on Page 2)	Tobacco dust. Thiocide 1-200, Grasselli Spreader 1-800. Nicotine liquid, 1-400, plus spreader. No-Py-Ro 1-300	Must be applied frequently.
RED SPIDER	Syringe with water. Loro 1-800, Grasselli Spreader 1-1200. No-Py-Ro 1-300	With caution. Try Greenhouse Volck with caution.
SYMPHILLID (1) (See Picture on Page 5)	Grown on raised benches.	Steam sterilize all soil.
TARNISH PLANT BUG (5)	General Sanitation. Nicofume fumigation. Tartar Emetic.	Control by contact only. See Leaf Roller
THRIP (See Picture on Page 2)	Salp Nicofume liquid 1-400. Loro 1-800, plus spreader.	1 quart Salp 2 lbs. Sugar 50 gal. Water Will cause injury on some Varieties.

- (1) Symphillids are small white creatures about 1/8 to 3/16 inches long which feed on the small white roots. Plants affected will not grow to any height.
- (2) Tarnish plant bugs in severe cases will cause blindness. Often times the flowers are one sided and the top of the spray will tip to one side. This insect is about 1/4 inch long and very difficult to locate. This insect is very injurious to mums planted out of doors without any aster cloth protection.

*Novelty Chrysanthemums***Sold on Contract Basis***Sunnyside***SUNNYSIDE**

A persistent demand from all wholesale growers calls for a round, hard flower that will ship and handle without bruising or other damages. Sunnyside exactly fills this demand. In addition to this, it is a strong grower and will consistently produce a heavy crop of well branched sprays that are easy to bunch. The quality of the flower is equal or better than any existing yellow pompon regardless of season or growth habit. The color is a clear brilliant yellow. It matures for Thanksgiving and later. It will hold well on the bench.

REVELATION

All florists both wholesale and retail are conscious of the need for quality flowers that can be produced in quantity for the January market. Revelation fills this need. It is a clear white pompon that blooms as late as or later than Snow. It has never been known to go blind. It will thrive and produce in abundance under any condition or method of growing that will produce a satisfactory crop of Garza. It ships well and looks fresh and attractive when unpacked. Revelation makes possible the easy production of high quality white pompons during Christmas and early January without loss of production or risk to the grower.

*Revelation*

NOVELTY

CHRYSANTHEMUMS

Novelty Chrysanthemums

Sold on Contract Basis

RIVIERA

A luminous pink decorative pompon blooming normally about December 10, just nicely following Minuet. This variety finishes beautifully, maintaining its color and form much better than existing varieties that bloom at the same season. The flower is showy and of good substance. Its heavy petallage permits an extended season of cutting. The plant is vigorous, of medium height and top production. The spray resembles that of Snow, being extremely rigid and well branched. Foliage is small with a very strong stem. A productive variety having a color and season in great demand.



Riviera



Vesper

VESPER

This variety is the result of an attempt to combine the flower quality of Rev. Bushnell with the free growth and high production of Sea Gull. It is a glistening white pompon that blooms normally November 10. The flower is very pure in color and has unusually good substance. The form is beautiful and its heavy petallage permits a long period of cutting. Free growth, easy culture, and a well branched spray rank Vesper with the best of the early dependable varieties now in use. This unique combination of flower quality and free growth habit plus its favorable response to black cloth treatment should make this variety very popular. Gold Medal National Chrysanthemum Show 1943.

Varieties on This Page \$50.00 per 1000

NOTE: All cuttings of Sunnyside, Revelation, Riviera and Vesper will be sold with the following restrictions: Purchaser may propagate tops from early cuttings for own use, but agrees to sell these varieties as Cut Flowers Only. Propagation rights are reserved and stock must be discarded after flowering season. Contract forms will be supplied by the originator and must be signed and returned before shipments are made.

• Novelty Chrysanthemums •

BARCAROLE

An intense golden yellow pompon that blooms normally November 5. It is a very formal flower and possesses excellent substance. The habit of growth is outstandingly vigorous. It is of extremely easy culture and its smart, dark, glossy foliage, its rigid sprays and very high production mark it as a real bread and butter variety. It has proven a valuable variety for black cloth shading, flowering with Nuggets when shaded with that variety. Barcarole has shown no sensitivity to cultural conditions, being easily grown on either raised benches or ground beds. We suggest that those who now grow Mary L. Hall under black cloth will find Barcarole a more satisfactory variety. Awarded gold medal National Chrysanthemum Show 1943.



Barcarole

COCQUETTE

Large button type pompon. Color clear golden yellow, with good form and hard substance. Of free easy growth with good production. Stems strong and upright attaining medium height. Matures November 12 to 15. A desirable yellow button pompon flowering at a period when button varieties are not plentiful. Cocquette will be found to produce well and extremely free and easy to grow.



Coquette

TRIANON

Crimson bronze pompon with a good and appealing color. Perfect form and hard substance. Growth is free with clean medium sized foliage and good stems. Matures November 12. Trianon will produce a good average of upright sprays. It is easy to grow and produces a good quantity of perfectly rounded blooms with both good form and substance. It blooms at a period when deep bronze pompons are not plentiful.

BITTERSWEET

A beautiful medium sized bittersweet red daisy that blooms normally November 8. The flower possesses substance and keeping qualities that are superior to any existing red daisies suitable for cloth house culture. It retains its brilliance with full maturity. Bittersweet has a stiff wiry stem that produces well branched sprays. The foliage is small, dark green and glossy. It responds well to black cloth treatment. It bunches well and because of its striking color and attractive foliage it compels attention when displayed with other varieties. A better cloth house red daisy and a good running mate for Sylvanna. Awarded gold medal National Chrysanthemum Show 1943.



Bittersweet

NOVELTY

CHRYSANTHEMUMS

Novelty Chrysanthemums

NEW VARIETIES OF A FEW YEARS AGO. DON'T FAIL TO ADD THESE TO YOUR LIST.

APRICOT VALENCIA

A beautiful apricot or rosewood buff sport from Dark Pink Valencia. In growth and form it is identical with this variety, being less vegetative than the original Valencia. The color is distinctly new in this group. It is a favorite with retailers.

GOLDEN SURPRISE

A medium sized yellow pompon of value because of its season just prior to and including Thanksgiving. The growth habit is free and productive. A valuable color in a season when yellow pompons are in great demand.

PIXIE

A small, well-rounded pompon somewhat larger than Nuggets. The color improves that variety in that it is much brighter and therefore more attractive. It is a remarkably good shipper. It responds beautifully to cloth house practice. It blooms normally November 10.

SEAFOAM

A pure white, medium sized pompon with a full center and well-rounded form, that blooms November 20-25. The flower resembles Rev. Bushnell. It responds satisfactorily to cloth house practices when grouped with the later varieties.

Above Varieties \$60.00 per 1000

ARGO

A medium sized pompon with good rounded form and excellent substance for Thanksgiving and early December. The color is a beautiful bronzy orange, shading to rust. A very appealing shade which does not fade if allowed to stand on the plant.

DECEMBER WHITE

Large clear white standard, first quality blooms for December. The flowers are large, incurved on strong stems. Flowers keep very well on the plant and after being cut.

MINUET

Minuet provides a pink pompon for Thanksgiving that is so superior to existing late November pink pompons that it should become the leading variety for that season.

BRONZE GOLDSMITH

A beautiful blended orange and Brazil red sport of Goldsmith. A much thought after color, and a good growth habit for late November.

METEORE

Large round standard on good stem with dark foliage. We recommend this variety as a late yellow to bloom during mid-December.

SYLVANNA

There are very few good cloth house daisies that combine a high quality flower and a reliable productive growth habit.

Sylvanna should become very popular both as a cloth house daisy and during its natural season of bloom which is November 10.

Above Varieties \$100.00 per 1000

DARK PINK BULKELEY

A deep mauve pink sport from Mrs. Bulkeley and identical to it in all other respects.

Dark Pink Bulkeley will hold its color to better advantage than the original under similar conditions.

BRONZE ORCHID QUEEN

An apricot buff sport from Orchid Queen. It is not intense or vivid and will not suit those who demand strong colors. As a soft color it is outstandingly beautiful and will be used wherever soft colors are in demand.

Above Varieties \$50.00 per 1000

CHRYSANTHEMUM

CUTTINGS

Large Flowering Varieties

YELLOW

Name and Description	Last Pinch	Height	Select Bud	Matures	Price per 1000
Gold Lode. Light golden yellow. Reflexed	June 20	Med.	Aug. 25	Oct. 1	\$37.50
Golden October. Deep lemon yellow. Incurved . .	June 25	Med.	Aug. 25	Oct. 10	37.50
Celestra. Lemon yellow. Incurved	June 25	Med.	Ter. Bud	Oct. 15	37.50
Mrs. H. E. Kidder. Deep lemon yellow. Incurved .	June 30	Med.	Aug. 25	Oct. 20	37.50
Yellow Ambassador. Lemon yellow. Incurved . .	July 5	Med.	Ter. Bud	Oct. 23	37.50
Blazing Gold. Deep golden yellow. Incurved . . .	July 5	Med.	Ter. Bud	Oct. 25	37.50
Sunglow. Golden yellow. Incurved	July 5	Med.	Aug. 25	Oct. 25	37.50
Smith's Superlative. Deep golden yellow. Reflexed	July 5	Med.	Aug. 25	Oct. 25	37.50
Citronella. Light buff yellow. Incurved	July 5	Short	Aug. 31	Oct. 28	37.50
Yellow Albatross. Light lemon yellow. Incurved .	July 10	Med.	Ter. Bud	Oct. 28	50.00
Saratoga. Bright golden yellow. Incurved	July 10	Med.	Ter. Bud	Nov. 1	50.00
Golden Glory. Golden yellow. Semi-Incurved . .	July 10	Short	Aug. 25	Nov. 1	37.50
Good News. Deep lemon yellow. Incurved	July 10	Med.	Aug. 30	Nov. 1	37.50
Yellow Turner. Light yellow. Incurved	July 10	Med.	Aug. 30	Nov. 5	50.00
Cardonia. Deep golden yellow. Incurved	July 15	Med.	Sept. 5	Nov. 10	37.50
Penrod. Golden yellow. Incurved	July 15	Med.	Ter. Bud	Nov. 10	50.00
Whittier. Lemon yellow. Incurved	July 15	Med.	Sept. 15	Nov. 13	37.50
Yellow Monument. Lemon yellow. Incurved . . .	July 20	Med.	Sept. 10	Nov. 15	37.50
Honey Dew. Lemon yellow. Incurved	July 20	Short	Ter. Bud	Nov. 15	37.50
Yellow Mefo. Lemon yellow. Incurved	July 25	Med.	Sept. 20	Nov. 20	37.50
Friendly Rival. Deep chrome yellow. Incurved .	July 25	Med.	Sept. 10	Nov. 20	37.50
Marie DePetris. Deep golden yellow. Incurved .	July 25	Short	Sept. 15	Nov. 23	37.50
Sun Gold. Lemon yellow. Semi-Incurved	July 25	Med.	Sept. 30	Nov. 25	37.50
Golden Pearson. Golden yellow. Incurved	July 25	Med.	Sept. 30	Nov. 25	37.50
Improved Yellow Chattanooga. Incurved	July 25	Med.	Sept. 20	Nov. 25	37.50
Golden Mrs. Ross. Golden yellow. Incurved . . .	July 30	Tall	Ter. Bud	Dec. 3	37.50
Golden Mistletoe. Pale golden yellow. Incurved .	Aug. 4	Med.	Sept. 30	Dec. 10	37.50
Meteore. Lemon yellow. Incurved	Aug. 4	Med.	Ter. Bud	Dec. 10	100.00
Improved Tobin's Late Yellow. Deep lemon yellow. Semi-incurved	Aug. 10	Short	Sept. 30	Dec. 15	37.50

WHITE

Smith's Early White. Incurved	June 20	Tall	Aug. 10	Oct. 5	37.50
Quaker Maid. White. Reflexed	June 25	Med.	Aug. 25	Oct. 15	37.50
Silver Sheen. Incurved	June 30	Med.	Aug. 30	Oct. 18	37.50
Christina. Incurved	June 30	Short	Aug. 25	Oct. 20	37.50
Ambassador. Cream white. Incurved	July 5	Med.	Ter. Bud	Oct. 23	37.50
Albatross. Incurved	July 10	Med.	Ter. Bud	Oct. 28	37.50
Snow White. Incurved	July 10	Med.	Ter. Bud	Nov. 1	37.50
Betsy Ross. Ivory white. Incurved	July 10	Tall	Aug. 25	Nov. 1	37.50
William Turner. White. Incurved	July 10	Med.	Aug. 30	Nov. 5	50.00
Indianapolis White. Incurved	July 15	Med.	Ter. Bud	Nov. 8	37.50
Monument. Ivory white. Incurved	July 20	Med.	Sept. 10	Nov. 15	37.50
Marketeer. Incurved	July 20	Med.	Ter. Bud	Nov. 18	37.50
Mefo. Ivory white. Incurved	July 25	Med.	Sept. 20	Nov. 20	37.50
White Frick. White suffused with pink. Incurved .	July 25	Short	Sept. 10	Nov. 25	37.50
Chattanooga. Incurved	July 25	Med.	Sept. 20	Nov. 25	37.50
December Glory. Ivory white. Incurved	July 30	Tall	Sept. 30	Dec. 1	37.50
December White. Incurved	Aug. 4	Med.	Ter. Bud	Dec. 5	100.00
Improved December Beauty. Incurved	Aug. 4	Med.	Oct. 1	Dec. 8	50.00
White Mistletoe. Incurved	Aug. 4	Med.	Sept. 30	Dec. 10	37.50
Smith's Late White. Ivory white. Semi-incurved .	Aug. 10	Short	Sept. 30	Dec. 15	37.50

FOR SHADING INFORMATION AND DELAYED FLOWERING SEE PAGES 24-31

CHRYSANTHEMUM

CUTTINGS

Large Flowering Varieties

BRONZE

Name and Description	Last Pinch	Height	Select Type	Matures	Price per 1000
Indianola. Pale reddish bronze. Incurved.....	June 25	Med.	Aug. 25	Oct. 10	\$37.50
Hilda Bergen. Dark reddish bronze. Incurved...	July 5	Med.	Aug. 25	Oct. 25	37.50
Cambria. Golden bronze. Incurved.....	July 5	Med.	Ter. Bud	Oct. 25	50.00
Alameda. Reddish bronze. Incurved.....	July 5	Short	Ter. Bud	Oct. 25	50.00
Glitters. Deep reddish orange. Reflexed.....	July 5	Med.	Ter. Bud	Oct. 28	37.50
Apricot Queen. Orange bronze. Incurved.....	July 10	Short	Sept. 5	Nov. 1	37.50
Detroit News. Reddish bronze. Incurved.....	July 10	Med.	Aug. 30	Nov. 1	37.50
Bronze Turner. Light bronze. Incurved.....	July 10	Med.	Aug. 30	Nov. 5	50.00
Indianapolis Bronze. Buff bronze. Incurved.....	July 15	Med.	Ter. Bud	Nov. 8	37.50
Bronze Orchid Queen. Apricot buff. Incurved..	July 15	Med.	Ter. Bud	Nov. 12	50.00
Mrs. A. J. Stahelin. Reddish bronze. Incurved..	July 15	Med.	Ter. Bud	Nov. 15	50.00
Gladys Pearson. Light buff bronze. Incurved...	July 25	Med.	Sept. 30	Nov. 25	37.50
Oak Leaf. Reddish bronze. Incurved.....	July 25	Med.	Sept. 30	Nov. 25	37.50
Bronze Frick. Light bronze. Incurved.....	July 25	Short	Sept. 10	Nov. 25	37.50
Bronze Mistletoe. Buff bronze. Incurved.....	Aug. 4	Med.	Sept. 30	Dec. 10	37.50

PINK

Early October. Light lavender. Semi-incurved..	June 25	Med.	Ter. Bud	Oct. 10	100.00
Pink Chief. Lavender. Incurved.....	June 25	Tall	Ter. Bud	Oct. 15	37.50
Justrite. Light rose pink. Incurved.....	June 25	Short	Ter. Bud	Oct. 15	37.50
October Rose. Light lavender. Incurved.....	June 30	Med.	Sept. 5	Oct. 15	50.00
Rose Chochard. Light lavender. Incurved.....	June 30	Short	Aug. 15	Oct. 20	37.50
Major Ed. Bowes. Deep lavender. Incurved....	June 30	Med.	Aug. 30	Oct. 20	37.50
Rosabella. Rose pink. Incurved.....	July 5	Med.	Ter. Bud	Oct. 25	50.00
Rosy Morn. Deep pink. Incurved.....	July 5	Med.	Ter. Bud	Oct. 25	100.00
Pink Turner. (Mrs. Leslie Davis). Lavender. Incurv.	July 10	Med.	Aug. 30	Nov. 5	50.00
J. W. Prince. Rose pink. Incurved.....	July 10	Short	Aug. 30	Nov. 5	37.50
Indianapolis Pink. Deep lavender. Incurved....	July 15	Med.	Ter. Bud	Nov. 8	37.50
Orchid Queen. Orchid pink. Incurved.....	July 15	Med.	Ter. Bud	Nov. 12	50.00
Thanksgiving Pink. Amaranth. Reflexed.....	July 25	Short	Sept. 15	Nov. 23	50.00
Peter John. Deep rose pink. Reflexed.....	July 25	Short	Sept. 15	Nov. 23	50.00
Helen Frick. Rose pink. Incurved.....	July 25	Short	Sept. 10	Nov. 25	37.50
Edwin Seidewitz. Lavender. Incurved.....	July 30	Tall	Sept. 15	Nov. 30	37.50
Pink Mistletoe. Lavender. Incurved.....	Aug. 4	Med.	Sept. 30	Dec. 10	37.50

RED

Anaconda. Deep coppery red with golden bronze reverse. Incurved	July 15	Med.	Sept. 15	Nov. 10	60.00
Mrs. David F. Roy. Crimson with deep buff reverse. Incurved	July 15	Short	Sept. 15	Nov. 10	50.00
Garnet King. Dark red. Reflexed	July 20	Med.	Sept. 20	Nov. 18	50.00
Harvard. Deep red. Reflexed	July 30	Med.	Sept. 30	Nov. 30	37.50
Mohawk Chief. Deep red. Reflexed	July 30	Med.	Sept. 30	Nov. 30	50.00

SEE PAGES 8 AND 9 FOR DISEASE AND INSECT CONTROL

CHRYSANTHEMUM

CUTTINGS

Hardy or Garden Varieties

The following varieties have been selected from a large list and have proven themselves best suited for cut flowers as well as general outdoor display. Many florists have grown these garden varieties in the cloth house and greenhouses with excellent results. No black cloth treatment is necessary for September and early October flowering.

There is also an increasing demand from the retail customers for small plants in the spring as well as field clumps in early fall. Might we suggest planting some of these garden varieties around your greenhouse? This will give an array of color in the fall when the annuals usually are finished blooming.

YELLOW

Name and Description	Size & Type	Matures	Price per 1000
Barbara Cumming. (Yellow Normandie). Buff yellow...	Int. Dec.	Sept. 15	\$37.50
Early Yellow. Light golden yellow	S. Pom.	Sept. 15	37.50
Pomponette. Light buff yellow	Int. Pom.	Sept. 20	37.50
Wolverine. Light yellow	Int. Dec.	Sept. 25	37.50
King Midas. Light lemon yellow	Int. Dec.	Sept. 30	37.50
Judith Anderson. Golden yellow	S. Pom.	Oct. 15	37.50
Yellow Irene. Light lemon yellow. Sport from Irene....	S. Pom.	Oct. 18	37.50
Rodell Improved. Light lemon yellow	Int. Pom.	Oct. 20	37.50

WHITE

Silver Moon. Cream white	Int. Sing.	Sept. 15	37.50
Normandie. White suffused with pink	Int. Dec.	Sept. 20	37.50
Jean Cumming. Ivory white	Int. Dec.	Sept. 20	37.50
Avalanche	Int. Dec.	Oct. 5	37.50
Uvalda. Cream white	Int. Pom.	Oct. 10	37.50
White Jewell. White tinged with light lavender	S. Pom.	Oct. 15	37.50
Silver Ball	L. Pom.	Oct. 15	37.50
Irene	S. Pom.	Oct. 18	37.50

BRONZE and RED

Early Bronze. Orange bronze	S. Pom.	Sept. 15	37.50
Burgundy. White red	Int. Dec.	Oct. 5	37.50
Ruby Pompon. Ruby crimson	Int. Pom.	Oct. 5	100.00
Caliph. Deep red	Int. Dec.	Oct. 8	37.50
Red Velvet. Velvety crimson	Int. Dec.	Oct. 8	100.00
Ruth Cumming. Reddish bronze	Int. Dec.	Oct. 8	37.50
Mandarin. Coral salmon	Int. Dec.	Oct. 10	37.50
Indian Summer. Orange bronze	Int. Dec.	Oct. 15	37.50
Clara Jameson. Dark reddish bronze	S. Pom.	Oct. 15	37.50
Bonnibell. Light buff bronze	S. Pom.	Oct. 15	37.50

PINK

Jean Treadway. Light rose pink with dark center.....	Int. Dec.	Oct. 1	37.50
Mrs. du Pont. Peach pink shading to rosy salmon	Int. Dec.	Oct. 5	80.00
Rose Glow. Raspberry changing to opalescent rose ...	S. Dec.	Oct. 5	37.50
Lavender Lady. Lavender	Int. Dec.	Oct. 8	80.00
Symphony. Mauve coppery pink and lavender	Int. Dec.	Oct. 12	37.50
Jewell. Lavender	S. Pom.	Oct. 15	37.50
Dark Pink Jewell. Deep lavender. Sport from Jewell...	S. Pom.	Oct. 15	37.50

SEE PAGES 34 and 35 FOR CLOTH HOUSE CONSTRUCTION INFORMATION.

CHRYSANTHEMUM

CUTTINGS

Chrysanthemum Cuttings

Pompon and Decorative Varieties

The term pompon is applied to those varieties which are of the true rounded type, and those very nearly approaching this type.

Decorative varieties are those which are a distinct departure from the rounded type. Their flowers are less compact, partly reflexed and display more of the color of the inner side of the petals. Size of flower is indicated by S—small; Int.—intermediate: L—Large.

YELLOW

Name and Description	Last Pinch	Height	Size & Type	Matures	Price per 1000
Yellow Irene. Light lemon yellow. Sport from Irene	June 20	Short	S. Pom.	Oct. 18	\$37.50
Rodell Improved. Light lemon yellow	June 25	Short	Int. Pom.	Oct. 20	37.50
Yellow Hammer. Golden yellow	June 25	Med.	Int. Pom.	Oct. 20	50.00
Golden Spray. Deep lemon yellow	June 30	Med.	Int. Pom.	Oct. 23	37.50
*Golden Herald. Deep golden yellow	June 30	Med.	L. Dec.	Oct. 25	37.50
Yellow Dot. Yellow with bronze center	June 30	Med.	Int. Pom.	Oct. 25	37.50
Yellow Arcadia. Pernet yellow	June 30	Med.	Int. Pom.	Oct. 28	37.50
Mary Lennon Hall. (Vera Victoria). Deep lemon yellow	July 5	Tall	Int. Pom.	Nov. 1	37.50
Yellow Sea Gull. Pale lemon yellow	July 5	Tall	Int. Pom.	Nov. 1	37.50
*Yellow Doty. Buff yellow	July 5	Med.	L. Pom.	Nov. 1	37.50
Barcarole. Golden yellow	July 5	Med.	Int. Pom.	Nov. 5	125.00
Nuggets. Light lemon yellow	July 5	Short	S. Pom.	Nov. 5	37.50
Yellow Bushnell. Pernet yellow. Sport from Rev. Bushnell	July 10	Tall	Int. Pom.	Nov. 8	37.50
Derigold. Deep golden yellow	July 10	Med.	Int. Pom.	Nov. 10	37.50
Pixie. Deep golden yellow	July 10	Med.	S. Pom.	Nov. 10	60.00
Yellow New York. Deep lemon yellow	July 10	Med.	S. Pom.	Nov. 13	37.50
Cocquette. Clear golden yellow	July 15	Med.	S. Pom.	Nov. 15	125.00
Princeton. Orange yellow	July 15	Med.	Int. Dec.	Nov. 15	37.50
Yellow Fellow. Deep lemon yellow	July 15	Med.	Int. Dec.	Nov. 15	37.50
Golden Surprise. Sulphur yellow, shading to golden yellow	July 20	Med.	Int. Pom.	Nov. 18	60.00
Hasegawa Gold. Light golden yellow	July 20	Med.	Int. Pom.	Nov. 23	37.50
§Sunnyside. Golden yellow	July 25	Med.	Int. Pom.	Nov. 23	50.00
*Goldsmith. Golden yellow	July 25	Med.	Int. Dec.	Nov. 25	37.50
Christmas Gold. Deep golden yellow	July 25	Med.	S. Pom.	Nov. 28	37.50
Yellow Cordova. Lemon yellow. Sport from Cordova	July 25	Med.	Int. Dec.	Nov. 30	37.50
Gold Coin. (Unalga). Deep lemon yellow	July 25	Med.	Int. Pom.	Dec. 1	37.50
Golden Modena. Deep lemon yellow. Sport from Modena	July 25	Med.	Int. Pom.	Dec. 5	50.00
December Gold. Deep golden yellow	Aug. 4	Med.	Int. Dec.	Dec. 15	37.50
Christmas Cheer. Buff yellow	Aug. 4	Med.	Int. Pom.	Dec. 15	37.50
Spun Gold. Deep lemon yellow	Aug. 4	Med.	Int. Dec.	Dec. 15	50.00
Vibrant. Deep lemon yellow	Aug. 4	Med.	Int. Dec.	Dec. 20	37.50
Winterset. Lemon yellow	Aug. 4	Med.	Int. Pom.	Dec. 25	37.50
Yellow Snow. Deep lemon yellow	Aug. 4	Med.	Int. Pom.	Dec. 30	37.50

* Responds to disbudding.

§ Propagation rights reserved—see novelty section page 11.

CHRYSANTHEMUM

CUTTINGS

Pompon and Decorative Varieties

WHITE

Name and Description	Last Pinch	Height	Size & Type	Matures	Price per 1000
Uvalda. Cream white	June 20	Med.	Int. Pom.	Oct. 10	\$37.50
White Jewell. White tinged with light lavender	June 20	Short	S. Pom.	Oct. 15	37.50
*Silver Ball	June 20	Med.	L. Pom.	Oct. 15	37.50
Irene	June 20	Short	S. Pom.	Oct. 18	37.50
Minong	June 25	Med.	S. Pom.	Oct. 20	37.50
Arcadia	June 30	Med.	Int. Pom.	Oct. 28	37.50
Sea Gull. Cream white	July 5	Tall	Int. Pom.	Nov. 1	37.50
*White Doty. Ivory white	July 5	Tall	L. Pom.	Nov. 1	37.50
Nancy Crain	July 5	Med.	S. Pom.	Nov. 5	100.00
Crystal Jewell	July 10	Tall	S. Pom.	Nov. 8	37.50
Rev. Horace Bushnell. Cream white	July 10	Tall	Int. Pom.	Nov. 8	37.50
§Vesper	July 10	Tall	Int. Pom.	Nov. 10	50.00
Chicago Pearl. Ivory white	July 15	Med.	Int. Pom.	Nov. 15	37.50
Pearl	July 20	Tall	Int. Pom.	Nov. 20	37.50
Seafoam	July 25	Med.	Int. Pom.	Nov. 20	60.00
Priscilla	July 25	Tall	L. Pom.	Nov. 28	100.00
*White Yuletide	July 25	Short	Int. Pom.	Nov. 28	37.50
Cordova. Cream white	July 25	Med.	Int. Dec.	Nov. 30	37.50
Royal Queen	July 30	Med.	Int. Pom.	Dec. 5	37.50
Cameo. Ivory white	July 30	Med.	Int. Pom.	Dec. 5	37.50
Silver Star. Ivory white	July 30	Tall	Int. Pom.	Dec. 10	37.50
December Glory. Ivory white	Aug. 4	Med.	Int. Dec.	Dec. 15	37.50
Snow. Ivory white	Aug. 4	Med.	Int. Pom.	Dec. 30	37.50
§Revelation	Aug. 4	Med.	Int. Pom.	Jan. 5	50.00

B R O N Z E

Bonribell. Light buff bronze	June 20	Short	S. Pom.	Oct. 15	37.50
Clara Jameson. Dark reddish bronze	June 20	Med.	S. Pom.	Oct. 15	37.50
Thorina. Reddish bronze	June 25	Med.	Int. Pom.	Oct. 20	37.50
Roman Bronze. Bronze suffused with pink	June 25	Tall	Int. Pom.	Oct. 20	37.50
Adelaide. Dark reddish bronze	June 25	Med.	S. Pom.	Oct. 23	37.50
*Jemima. Dark reddish bronze	June 25	Med.	Int. Pom.	Oct. 23	37.50
Fire Bird. Dark reddish bronze	June 30	Med.	Int. Dec.	Oct. 25	37.50
Ethel. Reddish bronze	June 30	Short	S. Pom.	Oct. 25	37.50
Elizabeth Peterson. Light orange bronze	July 5	Med.	Int. Pom.	Nov. 3	37.50
Bronze Bulkeley. Bronze suffused with pink	July 10	Tall	Int. Pom.	Nov. 8	37.50
Cassandra. Orange bronze (Sold Out)	July 10	Med.	Int. Pom.	Nov. 10	60.00
New York. Reddish bronze	July 10	Med.	S. Pom.	Nov. 13	37.50
Trianon. Crimson bronze	July 10	Med.	Int. Pom.	Nov. 13	125.00
*Bronze Masterpiece. Apricot bronze	July 15	Med.	Int. Pom.	Nov. 15	37.50
Fez. Deep reddish bronze	July 15	Med.	S. Pom.	Nov. 15	50.00
Gold Imperial. Golden yellow with deep yellow orange center	July 15	Tall	Int. Dec.	Nov. 15	60.00
Catherine. Light reddish bronze	July 20	Med.	Int. Dec.	Nov. 20	37.50
Legal Tender. Bronze and gold	July 20	Med.	Int. Dec.	Nov. 20	37.50

* Responds to disbudding.

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FOR SINGLE AND ANEMONE VARIETIES SEE PAGES 20 and 21.

CHRYSANTHEMUM

CUTTINGS

Pompon and Decorative Varieties

BRONZE—Continued

Name and Description	Last Pinch	Height	Type	Matures	Price per 1000
*Bronze Goldsmith. Mars orange	July 20	Medium	Int. Dec.	Nov. 25	\$100.00
Apricon. Apricot yellow	July 20	Medium	Int. Pom.	Nov. 25	37.50
Dorothy Turner. Deep reddish bronze	July 20	Medium	Int. Pom.	Nov. 25	37.50
Argo. Orange bronze	July 25	Short	Int. Pom.	Nov. 28	100.00
Glow. Orange, reddish orange at center	July 25	Medium	Int. Pom.	Nov. 30	50.00
Wildfire. Orange rust	July 25	Medium	Int. Pom.	Dec. 3	37.50
Cavalcade. Mandarin red. Golden bronze reverse	July 30	Medium	Int. Pom.	Dec. 10	37.50

PINK

Jewell. Lavender	June 20	Short	S. Pom.	Oct. 15	37.50
Dark Pink Jewell. Deep lavender	June 20	Short	S. Pom.	Oct. 15	37.50
Pink Pearl. Rose pink	June 25	Medium	S. Pom.	Oct. 20	37.50
Capt. Cook. Deep rose pink	June 25	Tall	Int. Pom.	Oct. 20	37.50
Jessie. (Madeline). Light lavender	June 30	Medium	Int. Pom.	Oct. 25	37.50
Pink Dot. White with pink center	June 30	Medium	Int. Pom.	Oct. 25	37.50
*Lillian Doty. Light rose pink	July 5	Medium	L. Pom.	Nov. 1	37.50
*Rose Charm. Lavender	July 5	Medium	L. Pom.	Nov. 1	37.50
Dark Pink Bulkeley. Dark rose pink	July 10	Tall	Int. Pom.	Nov. 8	50.00
Mrs. Morgan G. Bulkeley. Light rose pink suffused with orchid lavender	July 10	Tall	Int. Pom.	Nov. 8	37.50
*Thyra. Lavender	July 10	Medium	L. Pom.	Nov. 10	37.50
*Masterpiece. Tourmaline pink	July 15	Medium	Int. Pom.	Nov. 15	37.50
Minuet. Mauve to rose pink	July 20	Medium	Int. Pom.	Nov. 25	100.00
Usona. Lavender	July 20	Medium	Int. Pom.	Nov. 25	37.50
Prosperity. Deep lavender	July 30	Medium	Int. Dec.	Dec. 10	37.50
§Riviera. Luminous pink	July 30	Medium	Int. Dec.	Dec. 10	50.00
Pink Treasure Island. Light lavender	Aug. 4	Medium	Int. Dec.	Dec. 20	37.50

RED

Natoma. Flame scarlet	June 30	Short	Int. Dec.	Oct. 25	50.00
Robin Hood. Dark red	July 5	Medium	S. Pom.	Nov. 5	37.50
Navaho. Dark red (Sold Out)	July 5	Medium	Int. Dec.	Nov. 5	60.00
Red Princeton. Brazil red	July 15	Medium	Int. Dec.	Nov. 15	37.50
Mrs. Mary Hooker. Deep red	July 15	Tall	L. Dec.	Nov. 15	37.50
Red Beau. Reddish bronze	July 20	Short	Int. Dec.	Nov. 25	37.50
Royal Crimson. Dark crimson	July 25	Medium	L. Dec.	Dec. 1	37.50

* Responds to disbudding. § Propagation rights reserved—see novelty section page 11.



Mildew



Foliar Nematode Injury

CHRYSANTHEMUM

CUTTINGS

Single - Daisy Type - Varieties

YELLOW

Name and Description	Last Pinch	Height	Size	Matures	Price per 1000
Yellow Daisy. Deep lemon yellow	June 30	Medium	Int.	Nov. 1	\$37.50
*Golden Mensa. Pale lemon yellow	July 10	Medium	Int.	Nov. 10	37.50
Lodestar. Golden yellow	July 25	Medium	Int.	Nov. 25	100.00
*Golden Jane. Brilliant golden yellow	July 25	Medium	Large	Nov. 30	60.00

WHITE

*White Mensa. Ivory white	July 10	Medium	Int.	Nov. 10	37.50
Yukon	July 30	Tall	Int.	Dec. 10	37.50

BRONZE

October Bronze. Light bronze	June 30	Medium	Int.	Oct. 28	37.50
Bronze Daisy. Light bronze	June 30	Medium	Int.	Nov. 1	37.50
Bronze Buckingham. Light orange bronze	July 5	Short	Int.	Nov. 3	50.00
*Mason's Bronze. Burnt orange	July 10	Short	Large	Nov. 10	37.50
*Melba. Light reddish bronze	July 10	Short	Large	Nov. 10	37.50
Sylvanna. Bittersweet orange	July 10	Medium	Int.	Nov. 10	100.00
*Apricot Valencia. Deep apricot buff	July 25	Medium	Large	Nov. 30	60.00
*Jane. Light buff bronze. Sport from Valencia...	July 25	Medium	Large	Nov. 30	37.50
Viking. Deep reddish bronze shading to orange	July 25	Medium	Int.	Dec. 1	50.00

PINK

October Pink. Light lavender	June 30	Medium	Int.	Oct. 28	37.50
W. H. Buckingham. Rose pink	July 5	Short	Int.	Nov. 3	50.00
Hasegawa Pink. Lavender	July 20	Medium	Int.	Nov. 25	37.50
*Valencia. Orchid pink	July 25	Medium	Large	Nov. 30	37.50
*Dark Pink Valencia. Deep orchid pink	July 25	Medium	Large	Nov. 30	37.50
Carillon. Deep orchid pink	Aug. 4	Medium	Int.	Dec. 15	50.00
Rosalind. Rose pink	Aug. 4	Tall	Int.	Dec. 20	37.50

RED

Red Daisy. Deep red	July 5	Medium	Int.	Nov. 5	37.50
Bittersweet. Bittersweet red	July 5	Medium	Int.	Nov. 8	125.00
*Europa. Cardinal red	July 10	Short	Large	Nov. 10	50.00
*Clara Holford. Deep red	July 10	Medium	Large	Nov. 10	37.50
*Red Melba. Light red	July 10	Short	Large	Nov. 10	37.50
*Red Valencia. Brazil red. Sport from Valencia..	July 25	Medium	Large	Nov. 30	60.00
*Carnelia. Bittersweet red	July 25	Short	Large	Nov. 30	50.00
Sarong. Crimson scarlet	Aug. 4	Medium	Int.	Dec. 15	37.50

* Responds to disbudding.

CHRYSANTHEMUM

CUTTINGS

Anemone Flowered Varieties

YELLOW

Name and Description	Last Pinch	Height	Size	Matures	Price per 1000
*Helios. Deep golden yellow	July 10	Medium	Large	Nov. 10	\$37.50
Sunray. Light lemon yellow	July 15	Medium	Int.	Nov. 15	37.50
*Susanne Miller. Buff yellow. Sport from Norma	July 20	Tall	Large	Nov. 18	37.50
*Yellow Rolinda. Light buff yellow	July 20	Medium	Int.	Nov. 23	37.50
Citrus Queen. Lemon orange	July 20	Medium	Large	Nov. 25	37.50
Yellow Supreme. Buff yellow suffused with pink	July 30	Medium	Large	Dec. 10	37.50
Yellow Garza Supreme. Pale lemon yellow	Aug. 4	Short	Int.	Dec. 15	37.50

WHITE

*Graceland. White with yellow center	July 5	Medium	Int.	Oct. 28	37.50
Blanche	July 5	Medium	Int.	Nov. 1	37.50
*White Anemone	July 5	Tall	Int.	Nov. 5	37.50
*Shasta	July 10	Medium	Int.	Nov. 8	37.50
*Little America	July 10	Medium	Int.	Nov. 10	37.50
*White Freida. White with yellow cushion	July 15	Medium	Large	Nov. 15	37.50
*White Norma. White suffused with pink	July 20	Tall	Large	Nov. 18	37.50
*Nevada. White with chartreuse green cushion	July 20	Medium	Int.	Nov. 20	100.00
*Long Island Beauty. White with yellow cushion	July 20	Medium	Large	Nov. 20	37.50
*White Supreme. White suffused with pink	July 30	Medium	Large	Dec. 10	37.50
Garza Supreme	Aug. 4	Short	Int.	Dec. 15	37.50

BRONZE

*Bronze Freida. Salmon buff with yellow center	July 15	Medium	Large	Nov. 15	37.50
Yolanda. Light orange bronze	July 20	Medium	Int.	Nov. 25	37.50
Chrome Emerald. Golden orange with gold cushion	July 25	Short	Int.	Dec. 1	50.00
Bronze Supreme. Light bronze suffused with pink	July 30	Medium	Large	Dec. 10	37.50

PINK

*Betty Rose. Lavender	July 1	Medium	Large	Oct. 25	37.50
Linda Lou. Lavender	July 10	Medium	Int.	Nov. 8	37.50
Orchid Beauty. Orchid with golden cushion	July 15	Medium	Int.	Nov. 15	37.50
*Freida. Light lavender with yellow cushion	July 15	Medium	Large	Nov. 15	37.50
*Dark Pink Freida. Deep lavender	July 15	Medium	Large	Nov. 15	37.50
*Norma. Orchid pink petals with salmon cushion	July 20	Tall	Int.	Nov. 18	37.50
*Dark Pink Norma. Deep lavender	July 20	Tall	Int.	Nov. 18	37.50
*Beautiful Lady. Deep lavender rays with cream white cushion	July 20	Short	Large	Nov. 25	50.00
*Enchantress. Deep pink with light pink cushion	July 30	Medium	Large	Dec. 5	50.00
*Dark Pink Supreme. Lavender	July 30	Medium	Large	Dec. 10	37.50

RED

*The Titan. Scarlet crimson with bronzy red cushion	July 10	Medium	Large	Nov. 10	37.50
*Red Rolinda. Deep reddish bronze	July 20	Medium	Int.	Nov. 23	37.50
*Crimson Glow. Crimson maroon	July 20	Medium	Int.	Nov. 25	37.50

* Responds to Disbudding.

FOR SHADING INFORMATION SEE PAGES 24-30.

CHRYSANTHEMUM

C U T T I N G S

Pot Plant Varieties

Types are indicated by Sing.—Single; Anem.—Anemone; Dec.—Decorative; Pom.—Pompon; Inc.—Incurved. Size of flower is indicated by S—Small; Int.—Intermediate; L—Large; L. F. Large flowering commercial.

YELLOW

Name and Description	Last Pinch	Size & Height	Spray or Type	Matures	Price per 1000
Early Yellow. Light golden yellow	Aug. 24	S. Pom.	Spray	Sept. 15	\$37.50
Pomponette. Light buff yellow	Aug. 24	Int. Pom.	Spray	Sept. 20	37.50
Gold Lode. Golden yellow	Aug. 24	L. F. Dec.	Disbud	Oct. 1	37.50
Rodell Improved. Yellow. Sport from Rodell....	Aug. 24	Int. Pom.	Spray	Oct. 20	37.50
Mrs. H. E. Kidder. Bright yellow	Aug. 24	L. F. Inc.	Disbud	Oct. 20	37.50
Cincinnati. Golden yellow	Aug. 24	L. Pom.	Disbud	Oct. 20	37.50
Golden Spray. Deep lemon yellow	Sept. 3	Int. Pom.	Spray	Oct. 23	37.50
Blazing Gold. Deep golden yellow	Aug. 24	L. F. Inc.	Disbud	Oct. 25	37.50
Smith's Superlative. Deep golden yellow.....	Aug. 24	L. F. Dec.	Disbud	Oct. 25	37.50
Sunglow. Yellow	Aug. 24	L. F. Inc.	Disbud	Oct. 25	37.50
Golden Glory. Golden yellow	Aug. 24	L. F. Inc.	Disbud	Nov. 1	37.50
Saratoga. Bright golden yellow	Aug. 24	L. F. Inc.	Disbud	Nov. 1	50.00
Ohio State. Light lemon yellow	Aug. 24	Int. Anem.	Disbud	Nov. 1	37.50
Cardonia. Deep golden yellow	Aug. 29	L. F. Inc.	Disbud	Nov. 10	37.50
Yellow Beauty. Golden yellow	Aug. 29	L. Pom.	Disbud	Nov. 10	37.50
Sunray. Yellow	Sept. 3	Int. Anem.	Spray	Nov. 15	37.50
Honey Dew. Lemon yellow	Sept. 3	L. F. Inc.	Disbud	Nov. 15	37.50
Yellow Fellow. Deep lemon yellow	Sept. 3	Int. Dec.	Spray	Nov. 15	37.50
Bright Light. Light lemon yellow	Sept. 3	L. Dec.	Disbud	Nov. 20	37.50
Friendly Rival. Large golden yellow	Sept. 3	L. F. Inc.	Disbud	Nov. 20	37.50
Bonnaffon DeLuxe. Golden yellow	Sept. 3	L. F. Inc.	Disbud	Nov. 20	37.50
Marie De Petris. Deep golden yellow	Sept. 3	L. F. Inc.	Disbud	Nov. 23	37.50
Yellow Rolinda. Buff yellow	Sept. 8	Int. Anem.	Spray	Nov. 23	37.50
Sun Gold. Lemon yellow	Sept. 8	L. F. Dec.	Disbud	Nov. 25	37.50

WHITE

White Jewell. White suffused with pink	Aug. 24	S. Pom.	Spray	Oct. 15	37.50
Irene. White	Aug. 24	S. Pom.	Spray	Oct. 18	37.50
Minong. White	Aug. 24	S. Pom.	Spray	Oct. 20	37.50
Christina. White, sport from Rose Chochard...	Aug. 24	L. F. Inc.	Disbud	Oct. 20	37.50
Graceland. White with yellow center	Aug. 24	Int. Anem.	Disbud	Oct. 28	37.50
Indianapolis White. White	Aug. 29	L. F. Inc.	Disbud	Nov. 8	37.50
Richard Mandel. Pure white	Aug. 29	L. Pom.	Disbud	Nov. 10	37.50
Little America. Pure White	Aug. 29	Int. Anem.	Disbud	Nov. 10	37.50
Marketeer. White	Sept. 3	L. F. Inc.	Disbud	Nov. 18	37.50
Long Island Beauty. White with yellow cushion..	Sept. 3	L. Anem.	Disbud	Nov. 20	37.50
White Frick. White suffused with pink	Sept. 3	L. F. Inc.	Disbud	Nov. 25	37.50

CHRYSANTHEMUM

CUTTINGS

Pot Plant Varieties

BRONZE and RED

Name and Description	Last Pinch	Size & Type	Spray or Disbud	Blooming Date	Price per 1000
Early Bronze. Orange bronze	Aug. 24	S. Pom.	Spray	Sept. 15	\$37.50
Indianola. Light bronze	Aug. 24	L.F. Inc.	Disbud	Oct. 20	37.50
Thorina. Reddish bronze	Aug. 24	Int. Pom.	Spray	Oct. 20	37.50
Alameda. Reddish bronze with buff reverse	Aug. 29	L.F. Inc.	Disbud	Oct. 25	50.00
Hilda Bergen. Bronze	Aug. 24	L.F. Inc.	Disbud	Oct. 25	37.50
Cambria. Golden bronze	Aug. 24	L.F. Inc.	Disbud	Oct. 25	50.00
Glitters. Bright bronze	Aug. 29	L.F. Dec.	Disbud	Oct. 28	37.50
Apricot Queen. Orange Bronze	Aug. 29	L.F. Inc.	Disbud	Nov. 1	37.50
Indianapolis Bronze. Buff bronze	Aug. 29	L.F. Inc.	Disbud	Nov. 8	37.50
Clara Holford. Deep red	Aug. 29	L. Sing.	Disbud	Nov. 10	37.50
Red Melba. Red	Aug. 29	L. Sing.	Disbud	Nov. 10	37.50
Bronze Masterpiece. Apricot bronze	Aug. 29	Int. Pom.	Disbud	Nov. 15	37.50
Gypsy. Pale reddish bronze	Aug. 29	S. Anem.	Spray	Nov. 15	37.50
Mrs. A. J. Stahelin. Reddish bronze	Aug. 29	L.F. Inc.	Disbud	Nov. 15	50.00
Garnet King. Deep, bright red	Sept. 3	L.F. Dec.	Disbud	Nov. 18	50.00
Legal Tender. Bronze and Gold	Sept. 3	Int. Dec.	Spray	Nov. 20	37.50
Red Rolinda. Deep reddish bronze	Sept. 8	Int. Anem.	Spray	Nov. 23	37.50
Bronze Frick. Light bronze	Sept. 8	L.F. Inc.	Disbud	Nov. 25	37.50
Harvard. Deep red	Sept. 8	L.F. Dec.	Disbud	Nov. 30	37.50

PINK

Early October. Light lavender	Aug. 24	L.F. Inc.	Disbud	Oct. 10	100.00
Jewell. Bright rose pink	Aug. 24	S. Pom.	Spray	Oct. 15	37.50
Rose Chochoard. Light lavender	Aug. 24	L.F. Inc.	Disbud	Oct. 20	37.50
Rosabella. Rose Pink	Aug. 24	L.F. Inc.	Disbud	Oct. 25	50.00
Indianapolis Pink. Deep lavender	Aug. 29	L.F. Inc.	Disbud	Nov. 8	37.50
Thyra. Dark pink	Aug. 29	L. Pom.	Disbud	Nov. 10	37.50
Queen of Pinks. (Pink Mandel.) Lavender	Aug. 29	L. Pom.	Disbud	Nov. 10	37.50
Ethrelda. Light lavender	Aug. 29	Int. Anem.	Disbud	Nov. 12	37.50
Masterpiece. Tourmaline pink	Aug. 29	Int. Pom.	Disbud	Nov. 15	37.50
Helen Frick. Rose Pink	Sept. 3	L.F. Inc.	Disbud	Nov. 25	37.50
Beautiful Lady. Deep lavender rays with cream white cushion	Sept. 3	L. Anem.	Disbud	Nov. 25	50.00



The Use of Black Cloth Shading to Advance the Flowering Season

The commercial use of applying black cloth to advance the flowering season has been used successfully for the past fifteen years. The biggest change has not been in the application of the cloth but has come about with varieties and their culture. The varieties in the following list lend themselves to black cloth shading. The dates opposite the varieties are those found satisfactory when the given blooming date is desired.

USEFUL HINTS

- 1—Use a good durable **Black Cloth** which when applied will reduce the light intensity to 2 foot candles or less. More light intensity than this will result in delayed flowering and unevenness of bloom.
- 2—Short day treatment matures the plants earlier, therefore it is necessary to have the pompons 12 to 15 inches high and the standards 18 to 24 inches high when the shading treatment is started. When plants are short at the start of the shading period you will have short cut flowers when ready to cut.
- 3—The cloth should be applied at 5 P.M. and removed at 8 A.M. Continue covering each evening on pompons until the latest buds show color and most of the flowers are well developed. For large flowering varieties shading can be discontinued after all flowering buds have attained the diameter of approximately one half inch.
- 4—Be sure that covering is complete on all benches shaded, as any leaks in light will cause uneven spots in the bench at blooming time.
- 5—When shading out of doors or under aster cloth, it has been found that metal clamps similar to those used in battery shops will hold on the black cloth better than clothes pins or safety pins.
- 6—When growing large flowering varieties outdoors give some protection as rain and wind storms play havoc when not protected.
- 7—Best results are obtained when varieties of approximately the same blooming date are used for any one particular shading. When a spread in blooming dates is desired, repeated shading of a few varieties at weekly or ten-day intervals has proven more satisfactory than grouping a large number of varieties into any one shading. The shading dates given are those which have been found to be best for the respective varieties. We recommend benching six weeks prior to shading.
- 8—Continue to give the plants which are being given the short day treatment the same care as those grown normally. We have collected the data on the ideal time to bench and pinch for the respective dates of bloom when shading is started at various dates. This is found in the tables on the following pages.
- 9—Select the first bud on standard varieties that appears after shading is started.
- 10—Black cloth should be applied each evening although missing one night a week will give fair results but delayed flowering results when cloth is not applied each evening.

As an added suggestion, we would recommend the removal of black cloth after night fall to allow for a better circulation of air. This would prevent the accumulation of dampness and the unfavorable results that usually occur therefrom. This of course will cause considerable extra work as the cloth must be replaced before morning. We feel however, that as this will improve the growth and the foliage it will be well worth the effort. Perfection is never obtained without added effort.

SHADING INFORMATION

Large Flowering Varieties

VARIETY	COLOR	Date of Benching	Date of Last Pinch	SHADE	BLOOM
BLAZING GOLD	Yellow	May 3	May 31	June 28	August-23-30
SILVER SHEEN	White	May 3	May 31	June 28	
HILDA BERGEN	Bronze	May 3	May 31	June 28	
PINK CHIEF	Pink	May 10	June 7	July 5	
BLAZING GOLD	Yellow	May 10	June 7	July 5	Aug. 30—Sept. 6
SILVER SHEEN	White	May 10	June 7	July 5	
HILDA BERGEN	Bronze	May 10	June 7	July 5	
PINK CHIEF	Pink	May 17	June 14	July 12	
GOOD NEWS	Yellow	May 10	June 7	July 5	September 6-13
ALBATROSS	White	May 10	June 7	July 5	
DETROIT NEWS	Bronze	May 10	June 7	July 5	
J. W. PRINCE	Pink	May 10	June 7	July 5	
BLAZING GOLD	Yellow	May 17	June 14	July 12	
SILVER SHEEN	White	May 17	June 14	July 12	
HILDA BERGEN	Bronze	May 17	June 14	July 12	
PINK CHIEF	Pink	May 24	June 21	July 19	
GOOD NEWS	Yellow	May 17	June 14	July 12	September 13-20
ALBATROSS	White	May 17	June 14	July 12	
DETROIT NEWS	Bronze	May 17	June 14	July 12	
J. W. PRINCE	Pink	May 17	June 14	July 12	
GOOD NEWS	Yellow	May 24	June 21	July 19	September 21-27
ALBATROSS	White	May 24	June 21	July 19	
DETROIT NEWS	Bronze	May 24	June 21	July 19	
J. W. PRINCE	Pink	May 24	June 21	July 19	
INDIANAPOLIS WHITE	White	May 24	June 21	July 19	Sept. 27—Oct. 4
INDIANAPOLIS BRONZE	Bronze	May 24	June 21	July 19	
INDIANAPOLIS PINK	Pink	May 24	June 21	July 19	
GOOD NEWS	Yellow	May 31	June 28	July 26	
ALBATROSS	White	May 31	June 28	July 26	
DETROIT NEWS	Bronze	May 31	June 28	July 26	
J. W. PRINCE	Pink	May 31	June 28	July 26	
HONEY DEW	Yellow	May 31	June 28	July 26	October 4-11
YELLOW MEFO	Yellow	May 31	June 28	July 26	
MEFO	White	May 31	June 28	July 26	
INDIANAPOLIS WHITE	White	May 31	June 28	July 26	
INDIANAPOLIS BRONZE	Bronze	May 31	June 28	July 26	
INDIANAPOLIS PINK	Pink	May 31	June 28	July 26	
GOOD NEWS	Yellow	June 7	July 5	August 2	
ALBATROSS	White	June 7	July 5	August 2	
DETROIT NEWS	Bronze	June 7	July 5	August 2	
J. W. PRINCE	Pink	June 7	July 5	August 2	
MRS. DAVID ROY	Red	May 31	June 28	July 26	October 11-18
HONEY DEW	Yellow	June 7	July 5	August 2	
YELLOW MEFO	Yellow	June 7	July 5	August 2	
MEFO	White	June 7	July 5	August 2	
INDIANAPOLIS WHITE	White	June 7	July 5	August 2	
INDIANAPOLIS BRONZE	Bronze	June 7	July 5	August 2	
INDIANAPOLIS PINK	Pink	June 7	July 5	August 2	
ORCHID QUEEN	Pink	June 7	July 5	August 2	

SHADING INFORMATION

Large Flowering Varieties

VARIETY	COLOR	Date of Benching	Date of Last Pinch	SHADE	BLOOM
GOLDEN PEARSON	Yellow	June 7	July 5	August 2	October 17-25
MRS. DAVID ROY	Red	June 7	July 5	August 2	
HONEY DEW	Yellow	June 14	July 12	August 9	
YELLOW MEFO	Yellow	June 14	July 12	August 9	
INDIANAPOLIS WHITE ..	White	June 14	July 12	August 9	
MEFO	White	June 14	July 12	August 9	
INDIANAPOLIS BRONZE ..	Bronze	June 14	July 12	August 9	
INDIANAPOLIS PINK	Pink	June 14	July 12	August 9	
ORCHID QUEEN	Pink	June 14	July 12	August 9	

Pompons, Decorative, Single and Anemone Types

YELLOW IRENE	Yellow	May 3	May 24	June 21	August 9-16
IRENE	White	May 3	May 24	June 21	
MINONG	White	May 3	May 24	June 21	August 16-23
WHITE JEWELL	White	May 3	May 24	June 21	
JEWELL	Pink	May 3	May 24	June 21	
YELLOW IRENE	Yellow	May 10	May 31	June 28	
IRENE	White	May 10	May 31	June 28	August 23-30
YELLOW DOT	Yellow	May 3	May 24	June 21	
MARY L. HALL	Yellow	May 3	May 24	June 21	
YELLOW DAISY	Yellow	May 3	May 24	June 21	
YELLOW HAMMER	Yellow	May 3	May 24	June 21	
MINONG	White	May 10	May 31	June 28	
WHITE JEWELL	White	May 10	May 31	June 28	
JEWELL	Pink	May 10	May 31	June 28	
PINK PEARL	Pink	May 10	May 31	June 28	Aug. 30—Sept. 6
YELLOW DOT	Yellow	May 10	May 31	June 28	
MARY L. HALL	Yellow	May 10	May 31	June 28	
YELLOW HAMMER	Yellow	May 10	May 31	June 28	
YELLOW DAISY	Yellow	May 10	May 31	June 28	
NUGGETS	Yellow	May 10	May 31	June 28	
JESSIE	Pink	May 10	May 31	June 28	
MINONG	White	May 17	June 7	July 5	
WHITE JEWELL	White	May 17	June 7	July 5	
JEWELL	Pink	May 17	June 7	July 5	
PINK PEARL	Pink	May 17	June 7	July 5	September 6-13
YELLOW DOT	Yellow	May 17	June 7	July 5	
MARY L. HALL	Yellow	May 17	June 7	July 5	
YELLOW HAMMER	Yellow	May 10	May 31	June 28	
YELLOW DAISY	Yellow	May 17	June 7	July 5	
NUGGETS	Yellow	May 17	June 7	July 5	
SEA GULL	White	May 17	June 7	July 5	
*LITTLE AMERICA	White	May 17	June 7	July 5	
BLANCHE	White	May 17	June 7	July 5	
JESSIE	Pink	May 17	June 7	July 5	
ADELAIDE	Bronze	May 17	June 7	July 5	September 13-20
FIREBIRD	Bronze	May 17	June 7	July 5	
PIXIE	Yellow	May 17	June 7	July 5	
YELLOW BUSHNELL	Yellow	May 17	June 7	July 5	
YELLOW FELLOW	Yellow	May 17	June 7	July 5	
YELLOW NEW YORK	Yellow	May 17	June 7	July 5	September 13-20
*HELIOS	Yellow	May 17	June 7	July 5	

* Good Disbudded.

SHADING

INFORMATION

Pompons, Decorative, Single and Anemone Types

VARIETY	COLOR	Date of Benching	Date of Last Pinch	SHADE	BLOOM
*LITTLE AMERICA	White	May 17	June 7	July 5	September 13-20
*WHITE FREIDA	White	May 17	June 7	July 5	
VESPER	White	May 17	June 7	July 5	
CRYSTAL JEWELL	White	May 17	June 7	July 5	
REV. H. BUSHNELL	White	May 17	June 7	July 5	
BLANCHE	White	May 17	June 7	July 5	
SYLVANNA	Bronze	May 17	June 7	July 5	
CASSANDRA	Bronze	May 17	June 7	July 5	
ROBIN HOOD	Red	May 17	June 7	July 5	
NAVAHO	Red	May 17	June 7	July 5	
*FREIDA	Pink	May 17	June 7	July 5	
MRS. M. G. BULKELEY	Pink	May 17	June 7	July 5	
YELLOW DOT	Yellow	May 24	June 14	July 12	
YELLOW HAMMER	Yellow	May 24	June 14	July 12	
YELLOW ARCADIA	Yellow	May 24	June 14	July 12	
MARY L. HALL	Yellow	May 24	June 14	July 12	
YELLOW DAISY	Yellow	May 24	June 14	July 12	
NUGGETS	Yellow	May 24	June 14	July 12	
*GOLDEN HERALD	Yellow	May 24	June 14	July 12	
SEA GULL	White	May 24	June 14	July 12	
ROMAN BRONZE	Bronze	May 24	June 14	July 12	
ADELAIDE	Bronze	May 24	June 14	July 12	
FIREBIRD	Bronze	May 24	June 14	July 12	
OCTOBER BRONZE	Bronze	May 24	June 14	July 12	
*CLARA HOLFORD	Red	May 24	June 14	July 12	
JESSIE	Pink	May 24	June 14	July 12	
PINK DOT	Pink	May 24	June 14	July 12	
CAPTAIN COOK	Pink	May 24	June 14	July 12	
OCTOBER PINK	Pink	May 24	June 14	July 12	
PIXIE	Yellow	May 24	June 14	July 12	September 20-27
YELLOW BUSHNELL	Yellow	May 24	June 14	July 12	
YELLOW FELLOW	Yellow	May 24	June 14	July 12	
YELLOW NEW YORK	Yellow	May 24	June 14	July 12	
*HELIOS	Yellow	May 24	June 14	July 12	
*LITTLE AMERICA	White	May 24	June 14	July 12	
*WHITE FREIDA	White	May 24	June 14	July 12	
VESPER	White	May 24	June 14	July 12	
CRYSTAL JEWELL	White	May 24	June 14	July 12	
REV. H. BUSHNELL	White	May 24	June 14	July 12	
BLANCHE	White	May 24	June 14	July 12	
SYLVANNA	Bronze	May 24	June 14	July 12	
CASSANDRA	Bronze	May 24	June 14	July 12	
ROBIN HOOD	Red	May 24	June 14	July 12	
NAVAHO	Red	May 24	June 14	July 12	
*FREIDA	Pink	May 24	June 14	July 12	
MRS. M. G. BULKELEY	Pink	May 24	June 14	July 12	
YELLOW DOT	Yellow	May 31	June 21	July 19	
YELLOW HAMMER	Yellow	May 31	June 21	July 19	
YELLOW ARCADIA	Yellow	May 31	June 21	July 19	
MARY L. HALL	Yellow	May 31	June 21	July 19	
YELLOW DAISY	Yellow	May 31	June 21	July 19	
NUGGETS	Yellow	May 31	June 21	July 19	
*GOLDEN HERALD	White	May 31	June 21	July 19	

* Good Disbudded.

SHADING

INFORMATION

Pompons, Decorative, Single and Anemone Types

VARIETY	COLOR	Date of Benching	Date of Last Pinch	SHADE	BLOOM
SEA GULL	White	May 31	June 21	July 19	September 20-27
ROMAN BRONZE	Bronze	May 31	June 21	July 19	
ADELAIDE	Bronze	May 31	June 21	July 19	
FIREBIRD	Bronze	May 31	June 21	July 19	
OCTOBER BRONZE	Bronze	May 31	June 21	July 19	
*CLARA HOLFORD	Red	May 31	June 21	July 19	
JESSIE	Pink	May 31	June 21	July 19	
PINK DOT	Pink	May 31	June 21	July 19	
CAPTAIN COOK	Pink	May 31	June 21	July 19	Sept. 27—Oct. 4
OCTOBER PINK	Pink	May 31	June 21	July 19	
PIXIE	Yellow	May 31	June 21	July 19	
YELLOW BUSHNELL	Yellow	May 31	June 21	July 19	
YELLOW FELLOW	Yellow	May 31	June 21	July 19	
YELLOW NEW YORK	Yellow	May 31	June 21	July 19	
*HELIOS	Yellow	May 31	June 21	July 19	
*LITTLE AMERICA	White	May 31	June 21	July 19	
*WHITE FREIDA	White	May 31	June 21	July 19	
VESPER	White	May 31	June 21	July 19	
CRYSTAL JEWELL	White	May 31	June 21	July 19	
REV. H. BUSHNELL	White	May 31	June 21	July 19	
*BLANCHE	White	May 31	June 21	July 19	
SYLVANNA	Bronze	May 31	June 21	July 19	
CASSANDRA	Bronze	May 31	June 21	July 19	
*BRONZE FREIDA	Bronze	May 31	June 21	July 19	
PRINCETON	Bronze	May 31	June 21	July 19	
ROBIN HOOD	Red	May 31	June 21	July 19	Sept. 27—Oct. 4
NAVAHO	Red	May 31	June 21	July 19	
*FREIDA	Pink	May 31	June 21	July 19	
MRS. M. G. BULKELEY	Pink	May 31	June 21	July 19	
YELLOW DOT	Yellow	June 7	June 28	July 26	
YELLOW HAMMER	Yellow	June 7	June 28	July 26	
YELLOW ARCADIA	Yellow	June 7	June 28	July 26	
MARY L. HALL	Yellow	June 7	June 28	July 26	
YELLOW DAISY	Yellow	June 7	June 28	July 26	
NUGGETS	Yellow	June 7	June 28	July 26	
*GOLDEN HERALD	Yellow	June 7	June 28	July 26	
SEA GULL	Yellow	June 7	June 28	July 26	
ROMAN BRONZE	Bronze	June 7	June 28	July 26	
ADELAIDE	Bronze	June 7	June 28	July 26	
FIREBIRD	Bronze	June 7	June 28	July 26	
OCTOBER BRONZE	Bronze	June 7	June 28	July 26	
*CLARA HOLFORD	Red	June 7	June 28	July 26	
RED DAISY	Red	June 7	June 28	July 26	October 4-11
JESSIE	Pink	June 7	June 28	July 26	
PINK DOT	Pink	June 7	June 28	July 26	
CAPTAIN COOK	Pink	June 7	June 28	July 26	
OCTOBER PINK	Pink	June 7	June 28	July 26	
YELLOW BUSHNELL	Yellow	June 7	June 28	July 26	
YELLOW FELLOW	Yellow	June 7	June 28	July 26	
YELLOW NEW YORK	Yellow	June 7	June 28	July 26	

* Good Disbudded.

SHADING

INFORMATION

Pompons, Decorative, Single and Anemone Types

VARIETY	COLOR	Date of Benching	Date of Last Pinch	SHADE	BLOOM
*HELIOS	Yellow	June 7	June 28	July 26	October 4-11
*LITTLE AMERICA	White	June 7	June 28	July 26	
*WHITE FREIDA	White	June 7	June 28	July 26	
VESPER	White	June 7	June 28	July 26	
CRYSTAL JEWELL	White	June 7	June 28	July 26	
REV. H. BUSHNELL	White	June 7	June 28	July 26	
BLANCHE	White	June 7	June 28	July 26	
SYLVANNA	Bronze	June 7	June 28	July 26	
CASSANDRA	Bronze	June 7	June 28	July 26	
*BRONZE FREIDA	Bronze	June 7	June 28	July 26	
PRINCETON	Bronze	June 7	June 28	July 26	
BITTERSWEET	Red	June 7	June 28	July 26	
ROBIN HOOD	Red	June 7	June 28	July 26	
NAVAHO	Red	June 7	June 28	July 26	
RED PRINCETON	Red	June 7	June 28	July 26	
*FREIDA	Pink	June 7	June 28	July 26	
MRS. M. G. BULKELEY	Pink	June 7	June 28	July 26	
MASTERPIECE	Pink	June 7	June 28	July 26	
YELLOW DOT	Yellow	June 14	July 5	August 2	
YELLOW ARCADIA	Yellow	June 14	July 5	August 2	
MARY L. HALL	Yellow	June 14	July 5	August 2	
YELLOW DAISY	Yellow	June 14	July 5	August 2	
NUGGETS	Yellow	June 14	July 5	August 2	
*GOLDEN HERALD	Yellow	June 14	July 5	August 2	
SEA GULL	White	June 14	July 5	August 2	
ROMAN BRONZE	Bronze	June 14	July 5	August 2	
ADELAIDE	Bronze	June 14	July 5	August 2	
FIREBIRD	Bronze	June 14	July 5	August 2	
OCTOBER BRONZE	Bronze	June 14	July 5	August 2	
*CLARA HOLFORD	Red	June 14	July 5	August 2	
RED DAISY	Red	June 14	July 5	August 2	
JESSIE	Pink	June 14	July 5	August 2	
PINK DOT	Pink	June 14	July 5	August 2	
CAPTAIN COOK	Pink	June 14	July 5	August 2	
OCTOBER PINK	Pink	June 14	July 5	August 2	
PIXIE	Yellow	June 14	July 5	August 2	October 11-18
YELLOW BUSHNELL	Yellow	June 14	July 5	August 2	
YELLOW FELLOW	Yellow	June 14	July 5	August 2	
YELLOW NEW YORK	Yellow	June 14	July 5	August 2	
*HELIOS	Yellow	June 14	July 5	August 2	
*LITTLE AMERICA	White	June 14	July 5	August 2	
*WHITE FREIDA	White	June 14	July 5	August 2	
VESPER	White	June 14	July 5	August 2	
CRYSTAL JEWELL	White	June 14	July 5	August 2	
REV. H. BUSHNELL	White	June 14	July 5	August 2	
BLANCHE	White	June 14	July 5	August 2	
SYLVANNA	Bronze	June 14	July 5	August 2	
CASSANDRA	Bronze	June 14	July 5	August 2	
*BRONZE FREIDA	Bronze	June 14	July 5	August 2	
PRINCETON	Bronze	June 14	July 5	August 2	
BITTERSWEET	Red	June 14	July 5	August 2	
ROBIN HOOD	Red	June 14	July 5	August 2	
NAVAHO	Red	June 14	July 5	August 2	
RED PRINCETON	Red	June 14	July 5	August 2	
*FREIDA	Pink	June 14	July 5	August 2	

* Good Disbudded.

SHADING

INFORMATION

Pompons, Decorative, Single and Anemone Types

VARIETY	COLOR	Date of Benching	Date of Last Pinch	SHADE	BLOOM
MRS. M. G. BULKELEY	Pink	June 14	July 5	August 2	October 11-18
YELLOW DOT	Yellow	June 21	July 12	August 9	
YELLOW ARCADIA	Yellow	June 21	July 12	August 9	
MARY L. HALL	Yellow	June 21	July 12	August 9	
YELLOW DAISY	Yellow	June 21	July 12	August 9	
NUGGETS	Yellow	June 21	July 12	August 9	
*GOLDEN HERALD	Yellow	June 21	July 12	August 9	
SEA GULL	White	June 21	July 12	August 9	
ROMAN BRONZE	Bronze	June 28	July 12	August 9	
FIREBIRD	Bronze	June 28	July 12	August 9	
OCTOBER BRONZE	Bronze	June 28	July 12	August 9	
*CLARA HOLFORD	Red	June 28	July 12	August 9	
RED DAISY	Red	June 28	July 12	August 9	
JESSIE	Pink	June 28	July 12	August 9	
PINK DOT	Pink	June 28	July 12	August 9	
CAPTAIN COOK	Pink	June 28	July 12	August 9	
PIXIE	Yellow	June 28	July 12	August 9	October 18-25
YELLOW BUSHNELL	Yellow	June 28	July 12	August 9	
YELLOW FELLOW	Yellow	June 28	July 12	August 9	
YELLOW NEW YORK	Yellow	June 28	July 12	August 9	
*HELIOS	Yellow	June 28	July 12	August 9	
*LITTLE AMERICA	White	June 28	July 12	August 9	
*WHITE FREIDA	White	June 28	July 12	August 9	
CRYSTAL JEWELL	White	June 28	July 12	August 9	
REV. H. BUSHNELL	White	June 28	July 12	August 9	
BLANCHE	White	June 28	July 12	August 9	
SYLVANNA	Bronze	June 28	July 12	August 9	
CASSANDRA	Bronze	June 28	July 12	August 9	
*BRONZE FREIDA	Bronze	June 28	July 12	August 9	
PRINCETON	Bronze	June 28	July 12	August 9	
BITTERSWEET	Red	June 28	July 12	August 9	
ROBIN HOOD	Red	June 28	July 12	August 9	
NAVAHO	Red	June 28	July 12	August 9	
RED PRINCETON	Red	June 28	July 12	August 9	
*FREIDA	Pink	June 28	July 12	August 9	
MRS. M. G. BULKELEY	Pink	June 28	July 12	August 9	
MASTERPIECE	Pink	June 28	July 12	August 9	
YELLOW DOT	Yellow	July 5	July 17	August 16	
YELLOW ARCADIA	Yellow	July 5	July 17	August 16	
MARY L. HALL	Yellow	July 5	July 17	August 16	
YELLOW DAISY	Yellow	July 5	July 17	August 16	
NUGGETS	Yellow	July 5	July 17	August 16	
*GOLDEN HERALD	Yellow	July 5	July 17	August 16	
SEA GULL	White	July 5	July 17	August 16	
ROMAN BRONZE	Bronze	July 5	July 17	August 16	
*CLARA HOLFORD	Red	July 5	July 17	August 16	
RED DAISY	Red	July 5	July 17	August 16	
JESSIE	Pink	July 5	July 17	August 16	
PINK DOT	Pink	July 5	July 17	August 16	
CAPTAIN COOK	Pink	July 5	July 17	August 16	
OCTOBER PINK	Pink	July 5	July 17	August 16	

* Good Disbudded.

To Delay Flowering by Use of Artificial Light

It has usually been considered that lighting pompons greatly reduces the number of flowers per spray. Experiments conducted at the United States Department of Agriculture shows that this occurs if light is applied at or soon after the time of bud formation. When light treatments were started at least 2 weeks before bud formation and applied in the form of nightly interruptions, no supplementary light being used while the buds developed, blooming could be delayed without seriously reducing flower count.

Experience will prove the best guide in applying methods to extend the flowering season. The choice of varieties, season of bloom and light treatment, must be made by the individual grower. If the blooming season is to be extended for only several weeks, then the light exposure period per night can be short, not to exceed 30 minutes of light from 40- to 60- watt lamps. If the blooming season is to be extended further, a longer period of light, but not more than 1 hour nightly, should be used. To be most effective, this light should be applied at or near the middle of the night.

USEFUL HINTS

- 1—Select vigorous growing, midseason to late-flowering varieties for delayed flowering.
- 2—Planting date may be several weeks later than when no lights are used.
- 3—Light with 40- to 60- watt lamps using suitable reflectors hung at four-foot intervals over the bench. Too low a light intensity will not retard bud development.
- 4—Start lights at least 2 weeks before buds are normally visible for the variety, usually not later than August 10th. Starting after this date may cause malformed flowers and long necks.
- 5—Use lights EVERY NIGHT at or near midnight, for one hour, when blooming is to be delayed several weeks. Use lights three hours for delaying longer periods.
- 6—Pinch pompons and disbuds the last time 30 days before the light treatment is discontinued. This will prevent varieties from getting too leggy.
- 7—Night temperatures should be 55 degrees with day temperatures from 10 to 15 degrees higher. Cooler night temperatures will induce blindness.
- 8—Discontinue lights according to the blooming time desired. For varieties normally blooming before November 15, allow 9 weeks after the lights are stopped until blooming; for varieties blooming after November 15 allow 10 to 11 weeks; and for those blooming in December, 11 to 12 weeks.
- 9—Be careful that the light from the bench treated does not light a bench nearby that is not treated. This will cause part of the bench not under treatment to be delayed in flowering and consequently upset growing plans for bench not under treatment.
- 10—Standards, Disbuds, Pot-Plants, and Pompons respond alike to this delayed flowering treatment.

Chrysanthemum Pot Plant Culture

Well grown short pot plants of Chrysanthemums have been finding a ready market in various sections of the country. We feel that many growers have been neglecting this valuable Fall potted plant. In many cases, poor attempts have been made in growing this plant and we offer the following suggestions for your consideration:

VARIETIES—The varieties best suited to pot culture are those which lateral freely and have a medium to low growing habit. A variety whose laterals tend to spread is superior to one with a more upright growth. Good examples are: Bonnaffon De Luxe and Queen of Pinks.

PLANTING—Cuttings may be planted into 2½" pots in May and later shifted into the larger pot for finishing. If this is done care must be used so as not to get the plants hardened too much before shifting. A more efficient and easier way is to set the large pots on the bench, fill them with potting soil and plant the cuttings directly into the finishing pots.

Three Cuttings should be planted in a six inch pot. While four may be required for a large pot.

WATERING AND HUMIDITY—After planting water **thoroughly** to set the soil around the plant roots. Repeat this type of watering when the soil gets on the dry side. Organic matter in the soil will facilitate watering and will tend to avoid extreme fluctuations in moisture supply. Keep humidity in house by wetting down bench and walks. Do not sprinkle foliage of plants.

PINCHING—Three pinches are sufficient for a good short compact pot plant. The first pinch should be approximately 15 days after planting. The second pinch about 30 days after planting and the third and last pinch as listed on the chart. Some of the varieties listed grow taller than others, however by observing the last pinching date all the varieties listed should finish reasonably uniform in height. A hard pinch is suggested when the last pinch is delayed until after shading. For example: Yellow Beauty when shaded July 1st and pinched July 11th.

FERTILIZING—The best program is to have regular soil tests and feed as need is indicated by these tests. In absence of these facilities, and starting with a relatively fertile potting soil, several light feedings should be made with a complete fertilizer such as Electra. This can safely be used at the rate of 1 Teaspoonful per 6" pot. This should be applied when soil is moist and never on a dry soil.

The foliage should retain a bright green lustre throughout the life of the plant, and the lower leaves should never be allowed to lose their color and turn to a light green due to low fertility. A strong well grown pot plant is a well fed plant.

DISEASES AND INSECTS—Pot Plants should be sprayed regularly with one of the rotenone insecticides for control of red spider. Pyrethrum sprays or tartar emetic will control thrip and leaf tier. If plants are to be grown outdoors before final potting the foliage should be kept covered with a spray such as Bordeaux Mixture or Fermate to prevent leaf spot. If this is not done considerable foliage loss may result during wet cool weather.

SHADING—Same procedure as for cut flowers. Black cloth should be new or in best of condition for very early shadings to avoid delayed and uneven blooming. When possible take cloth off at night, replacing before daylight.

DISBUDDING

WITH POMPONS—Remove center bud except on the button types. This gives better spacing to the remaining flowers. Also the center bud generally matures earlier than the surrounding buds, giving the appearance of irregular blooming and premature aging. Remove this bud as early as convenient.

WITH DISBUDS—Disbudding must be done early, late disbudding results in small flowers and weak and elongated stems directly below the flowers.

HEIGHT—By following our directions pompons grown in 5½" or 6" pots will be 11" to 13" high. Disbuds will grow 14" to 17" above the top of the pot.

POT PLANT

CULTURE

Continuous Bloom Schedule

YELLOW

Plant	Last Pinch	Shade	Approx. Date of Bloom
GOLDEN SPRAY			
May 15	July 16	July 1	September 1
June 1	July 30	July 15	September 20
June 15	August 16	August 1	October 5
July 1	September 3	No Shade	October 23
BLAZING GOLD			
May 15	July 6	July 1	September 10
June 1	July 20	July 15	September 25
June 15	August 6	August 1	October 10
July 1	August 24	No Shade	October 25
GOLDEN GLORY			
May 15	July 6	July 1	September 10
June 1	July 20	July 15	September 25
June 15	August 6	August 1	October 5
July 1	August 24	No Shade	November 1
CARDONIA			
May 15	July 4	July 1	September 15
June 1	July 18	July 15	October 8
June 15	August 4	August 1	October 20
July 1	August 29	No Shade	November 10
YELLOW BEAUTY			
May 15	July 11	July 1	October 1
June 1	July 25	July 15	October 15
June 15	August 11	August 1	October 25
July 1	August 29	No Shade	November 10
SUNRAY			
May 15	July 1	July 1	September 10
June 1	July 15	July 15	September 25
June 15	August 1	August 1	October 10
July 1	September 3	No Shade	November 15
BONNAFFON DE LUXE			
May 15	July 1	July 1	September 28
June 1	July 15	July 15	October 10
June 15	August 1	August 1	October 25
July 1	September 3	No Shade	November 20
CHRISTINA			
May 15	July 4	July 1	September 1
June 1	July 18	July 15	September 15
June 15	August 4	August 1	October 1
July 1	August 24	No Shade	October 20
GRACELAND			
May 15	July 11	July 1	September 10
June 1	July 25	July 15	September 25
June 15	August 11	August 1	October 10
July 1	August 24	No Shade	October 25
RICHARD MANDEL			
May 15	July 4	July 1	September 10
June 1	July 18	July 15	September 25
June 15	August 4	August 1	October 10
July 1	August 29	No Shade	November 10
LITTLE AMERICA			
May 15	July 6	July 1	September 10
June 1	July 20	July 15	September 25
June 15	August 6	August 1	October 10
July 1	August 29	No Shade	November 10

WHITE

BRONZE

Plant	Last Pinch	Shade	Approx. Date of Bloom
HILDA BERGEN			
May 15	July 1	July 1	August 25
June 1	July 15	July 15	September 10
June 15	August 1	August 1	September 25
July 1	August 24	No Shade	October 25
ALAMEDA			
May 15	July 6	July 1	September 5
June 1	July 20	July 15	September 20
June 15	August 6	August 1	October 5
July 1	August 29	No Shade	October 25
GLITTERS			
May 15	July 11	July 1	September 1
June 1	July 25	July 15	September 15
June 15	August 11	August 1	October 1
July 1	August 29	No Shade	October 28
APRICOT QUEEN			
May 15	July 11	July 1	September 1
June 1	July 25	July 15	September 15
June 15	August 11	August 1	October 1
July 1	August 29	No Shade	November 1
GYPSY			
May 15	July 1	July 1	September 20
June 1	July 15	July 15	October 5
June 15	August 1	August 1	October 20
July 1	August 29	No Shade	November 15
RED ROLINDA			
May 15	July 1	July 1	September 20
June 1	July 15	July 15	October 10
June 15	August 10	August 1	October 25
July 1	September 8	No Shade	November 23

PINK

JEWELL			
May 15	July 1	July 1	August 30
June 1	July 15	July 15	September 15
June 15	August 1	August 1	September 30
July 1	August 24	No Shade	October 15
INDIANAPOLIS PINK			
May 15	July 11	July 1	September 5
June 1	July 25	July 15	September 20
June 15	August 11	August 1	October 5
July 1	August 29	No Shade	November 8
THYRA			
May 15	July 10	July 1	September 20
June 1	July 25	July 15	October 5
June 15	August 10	August 1	October 15
July 1	August 29	No Shade	November 10
QUEEN OF PINKS			
May 15	July 1	July 1	September 10
June 1	July 15	July 15	September 25
June 15	August 1	August 1	October 10
July 1	August 29	No Shade	November 10
HELEN FRICK			
May 15	July 1	July 1	September 28
June 1	July 15	July 15	October 10
June 15	August 1	August 1	October 30
July 1	September 3	No Shade	November 25

Complete Cloth House Construction

Measure out a perfect rectangle on the ground, each side of the rectangle being 33 feet if you plan a house 33 feet in width, or if larger, some multiple of 33 feet. Posts to be placed in the ground three feet deep, to carry the wires at positions that will line the wires in 16 feet 6 inch centers, in every direction.

If you plan a 33 feet width house, it will require no inside posts, in a 66 feet width house you will need one row of posts inside, and in a 99 feet width house two rows of posts inside. IN ALL SIZE HOUSES BE CAREFUL THAT THE POSTS ARE PLACED TO CENTER THE SUPPORT WIRES EXACTLY 16 FEET 6 INCHES, so the top cloth made 33 feet widths with allowances will fit the frame.

Each outside post must be anchored rigidly with a dead man, and each corner post must have two dead men, one anchored against each side of the rectangle, dig a hole about three feet deep, six feet away from the post, take a 24 feet length of No. 8 galvanized wire, double it and loop one end around the post 6 feet 6 inches from the ground, attach the other end to the dead man and bury it, then twist the wire with a stick until the post is in line, nail the 6 inch baseboard in position around the outside of the house. Place two 1½ inch staples six feet above the ground on each post so the No. 8 galvanized wires will pull through easily and use wire stretchers to stretch the wires taut. Stretch the wires from the corner posts only, as corner posts have two dead men, one anchored against each side of the rectangle, stretch the wires until they have the proper rigid tension and then drive the staples in fully to hold wires.

If you have inside posts they may be placed to hold the support wires and cloth 6¾ to 7 feet in height giving more head room with the same width of cloth.

The cloth is rolled and folded and will be easy to lay if care is taken to follow directions.

To cover the top unroll the cloth at one end of the frame and with several men lift it across the support wires, leaving about a yard hanging over the end wire so you can adjust it later, unfold a few yards lengthwise beside the frame, then take the selvage edge of the house top and the selvage edge of the sidewall and roll them together five times around the side wire, where you have surplus cloth on the ends wrap this around the wires and sew it, as it protects the cloth where the strain centers on the support wires. Pin the cloth in place with 8 penny wire nails, pin 10 or 15 feet before you begin to sew, stretch the cloth only enough to keep the sagging out and be sure to keep the lengthwise reinforcement woven lines at an even distance parallel with the length of the wire.

Start at the post and sew by whipping around the wire using a tight lock stitch, so that the cloth will not slip, do not whip the thread along the wire more than 3 inches before lock stitching again, as you sew have the cloth pinned ahead of you 10 to 15 feet all the time. After this side is finished unfold the cloth to the other 33 feet side support wire and pin before sewing, making sure that the woven reinforced lines are at an even parallel distance from the support wire, sew ends with the same method. Only sew the cloth to support wires. fasten the sidewalls to the baseboard with the new aluminum fasteners every 9 inches instead of using the old lath strip method, as this will prevent the cloth from rotting at the baseboard, from dampness.

A very good idea to prevent the cloth from chafing and wearing out the yarns is to cover the rough joints of the baseboard and also wrap the posts with either heavy paper or old cloth. Where the wires are spliced cover them with some kind of wrapping.

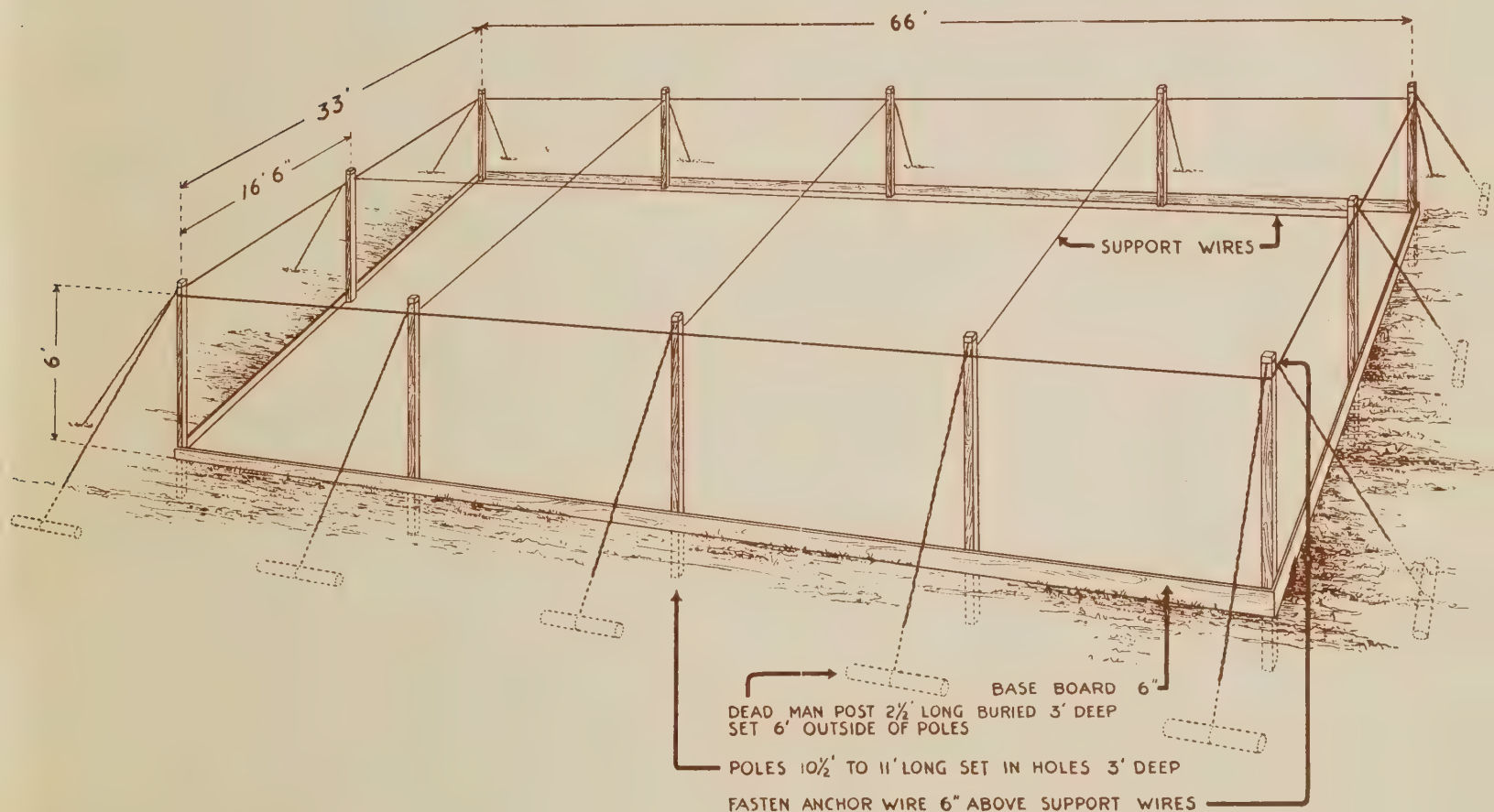
The beds are laid out lengthwise in the house. The width of the beds may be made to any dimension. It has been found that five beds 56 inches wide or six beds 44 inches wide are the easiest managed in

CLOTH HOUSE

Complete Cloth House Construction

a 33-foot house. Such an arrangement allows 18 inches for most walks and 26 inches for a main walk. The walks at either end of the house should be at least $2\frac{1}{2}$ feet wide.

It is best to put a 6-inch board around the border of each bed. The board keeps water from running into the walks and makes for easier amangement of the house.



Disbudded Sprays

Good Chrysanthemums result from the careful and thorough practice of the basic principles of plant growth, plus the acknowledgment of certain differences in the nature of various varieties. Growing disbudded sprays is a modification in culture which is very much worthwhile.

The procedure in growing disbudded sprays, is to wait until the crown bud forms, then remove all vegetative shoots but three. Later when terminal buds appear dis-bud each shoot similar to the normal disbudding of standards. When the blooms mature there are three flowers on each spray. In singles and anemones the size of the blooms will be a trifle smaller in size than when they are grown as one flower per stem. Raise three stems per plant similar to straight disbuds.

Bunch disbudded spray pompons similar to the way used in bunching the regular grown pompons.

*Varieties which may be grown as
Disbudded Sprays are as follows:—*

YELLOW

GOLDEN HERALD
YELLOW DOTY
YELLOW BEAUTY
HELIOS
SUSANNE MILLER
YELLOW ROLINDA
GOLDSMITH
GOLDEN JANE
BONNAFFON DELUXE

BRONZE

MASON'S BRONZE
APRICOT VALENCIA
BRONZE MASTERPIECE
BRONZE GOLDSMITH
BRONZE FREIDA
JANE

WHITE

SILVER BALL
GRACELAND
WHITE DOTY
RICHARD MANDEL
WHITE ANEMONE
SHASTA
LITTLE AMERICA
WHITE FREIDA
WHITE NORMA
LONG ISLAND BEAUTY
NEVADA
WHITE SUPREME

RED

EUROPA
CLARA HOLFORD

THE TITAN

RED MELBA
RED ROLINDA
CARNELIA

PINK

LILLIAN DOTY
QUEEN OF PINKS
THYRA
ENCHANTRESS
MASTERPIECE
FREIDA
NORMA
BEAUTIFUL LADY
VALENCIA
DARK PINK VALENCIA
DARK PINK SUPREME



Goldsmith after disbudding



Goldsmith natural spray

FROM _____

Fred C.
Gloeckner
&
Company,
Incorporated

15 East 26th Street
New York 10, N. Y.

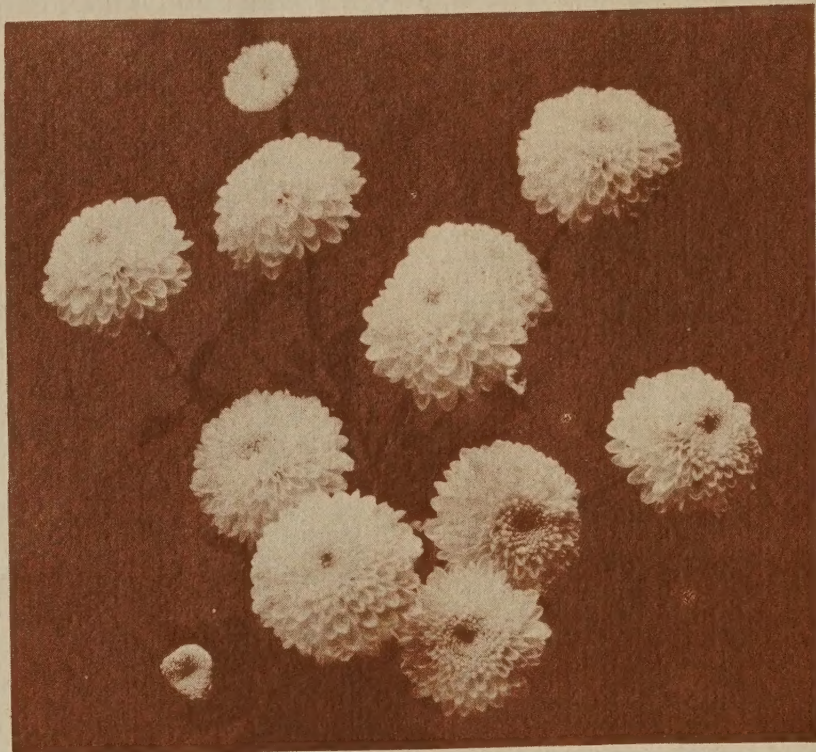
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	Bronze Bulkeley	18		Golden Mistletoe	14		Normandie	16		Thorina	18-23
	Bronze Daisy	20		Golden Modena	17		Nuggets	17		Thyra	19-23
	Bronze Freida	21		Golden Mrs. Ross	14	O				Tranon	12-18
	Bronze Frick	15-23		Golden October	14		Oak Leaf	15	U	Unalga (See Gold Coin)	
	Br. Goldsmith	19		Golden Pearl	14		October Bronze	20		Usona	19
	Br. Masterpiece	18-23		Golden Spray	17-22		October Pink	20		Uvalda	16-18
	Br. Mistletoe	15		Golden Surprise	13-17		October Rose	15	V	Valencia	20
	Br. Orchid Queen	13-15		Good News	14		Ohio State	22		Vera Victoria	
	Bronze Supreme	21		Graceland	21-22		Orchid Beauty	21		(See Mary L. Hall)	
	Bronze Turner	15		Gypsy	23		Orchid Queen	15		Vesper	11-18
	Burgundy	16	H	Harvard	15-23	P				Vibrant	17
C	Caliph	16		Hasegawa Gold	17		Pearl	18		Viking	20
	Cambria	15-23		Hasegawa Pink	20		Penrod	14	W	White Anemone	21
	Cameo	18		Helen Frick	15-23		Peter John	15		W. H. Buckingham	20
	Capt. Cook	19		Helios	21		Pink Chief	15		White Doty	18
	Cardonia	14-22		Hilda Bergen	15-23		Pink Dot	19		White Frick	14-22
	Carillon	20		Honey Dew	14-22		Pink Mistletoe	15		White Jewell	16-18-22
	Carnelia	20	I	Imp. Dec. Beauty	14		Pink Pearl	19		White Mensa	20
	Cassandra	18		Imp. Chieftain (See			Pink Treasure Island	19		White Mistletoe	14
	Catherine	18		J. W. Prince)			Pink Turner	15		White Norma	21
	Cavalcade	19		Imp. Tobin's L. Yellow	14		Pixie	13-17		White Supreme	21
	Celestra	14		Imp. Yel. Chattanooga	14		Pom. Dec. Glory	18		White Yuletide	18
	Chattanooga	14		Indianapolis Bronze	15-23		Pomponette	16-22		Whittier	14
	Chicago Pearl	18		Indianapolis Pink	15-23		Princeton	17		Wildfire	19
	Christina	14-22		Indianapolis White	14-22		Priscilla	18		William Turner	14
	Christmas Cheer	17		Indianapolis	15-23	Q	Prosperity	19		Winterset	17
	Christmas Gold	17		Indian Summer	16		Quaker Maid	14		Wolverine	16
	Chrome Emerald	21		Irene	16-18-22	R	Queen of Pinks	23	Y	Yellow Albatros	14
	Cincinnati	22	J	Jane	20					Yellow Ambassador	14
	Citronella	14		Jemima	18		Red Beau	19		Yellow Arcadia	17
	Citrus Queen	21		Jean Cumming	16		Red Daisy	20		Yellow Beauty	22
	Clara Holford	20-23		Jean Treadway	16		Red Melba	20-23		Yellow Bushnell	17
	Clara Jameson	16-18		Jessie	16-19-23		Red Princeton	19		Yellow Cordova	17
	Cocquette	12-17		Jewell	16-19-23		Red Rolinda	21-23		Yellow Daisy	20
	Cordova	18		Judith Anderson	16		Red Valencia	20		Yellow Dot	17
	Crimson Glow	21		Justrite	15		Red Velvet	16		Yellow Doty	17
	Crystal Jewell	18		J. W. Prince	15		Revelation	10-18		Yellow Fellow	17-22
D	Dark Pink Bulkeley	13-19	K	King Midas	16		Rev. Bushnell	18		Yellow Garza	21
	Dark Pink Freida	21		Lavender Lady	16		Richard Mandel	22		Yellow Hammer	17
	Dark Pink Jewell	16-19	L	Legal Tender	18-23		Riviera	11-19		Yellow Irene	16-17
	Dark Pink Norma	21		Leroy Zang			Robin Hood	19		Yellow Mefo	14
	Dark Pink Supreme	21		(See Golden Pearson)			Rodell Imp.	16-17-22		Yellow Monument	14
	Dark Pink Valencia	20		Lillian Doty	19		Roman Bronze	18		Yellow New York	17
	December Glory, Large	14		Linda Lou	21		Rosabella	15-23		Yellow Normandie	
	Dec. Gold	17		Little America	21-22		Rosalind	20		(See Barbara Cumming)	
	Dec. White	13-14		Lodestar	20		Rose Charm	19		Yellow Rolinda	21-22
	Derigold	17		Long Island Beauty	21-22		Rose Chochard	15-23		Yellow Sea Gull	17
	Detroit News	15	M	Madeline (See Jessie)			Rose Glow	16		Yellow Snow	17
	Dorothy Turner	19		Major Bowes	15		Rosy Morn	15		Yellow Supreme	21
E	Early Bronze	16-23		Mandarin	16		Royal Crimson	19		Yellow Turner	14
	Early October	15-23		Marie DePetris	14-22		Royal Queen	18		Yolanda	21
	Early Yellow	16-22		Marketeer	14-22		Ruby Pompon	16		Yukon	20
	Edwin Seidewitz	15		Mary L. Hall	17	S	Ruth Cumming	16			
				Mason's Bronze	20						
							Saratoga	14-22			
							Sarong	20			

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Novelty Chrysanthemums



Sea Foam



Argo



Golden Surprise

For Complete Description of the Novelties
Pictured Above See Page 13